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ORIGINAL COMMUNICATIONS.

ARTICLE I.—*On the Epidemic of 1825 in Natchez, Miss.* By AYRES P. MERRILL, M. D.

Causes.

NOTWITHSTANDING the many attempts that have been made towards an explanation of the nature and origin of the causes of epidemic fevers, they are still involved in great obscurity, and as yet are only known by their effects upon the human constitution; which serves, however, to afford us the means of observing the laws by which these destructive influences are regulated. By these effects, the *origin* of the miasmata, which are the acknowledged causes of this class of diseases, is determined to be either *general* or *local.*

1. It is *general*, when the miasmata being produced by exhalations from all parts of a city, the disease makes its appearance simultaneously in different and remote situations, embracing almost at the same instant, the whole extent of its location. Such is generally the case in Havanna and other West India cities, New-Orleans, &c. and also in Natchez, with the epidemics that occurred in the years 1817, 1819, and 1823, supposed to have been caused by exhalations from extensive accumulations of loose earth, collected by an effort to graduate the uneven surface of the city.

2. The origin of these causes is *local*, when the disease originates in some particular section of a city, confining itself upon its first appearance within a small compass, and afterwards extending

its influence from house to house, in regular and observable steps, radiating as from a focus in every direction, from the situation first infected; and unless checked in its progress by a desertion of the inhabitants, the opposition of artificial barriers, or the arrival of cold weather, continuing to spread, until the whole city is involved in the same dreadful calamity. Such was the case in Philadelphia and New York in 1793, 1795, 1798, &c. and more recently in New York, Baltimore, &c.

The epidemic which is the subject of these remarks, although much less extensive and violent than at any former period, when this city has been the theatre of its ravages, has exhibited conclusive evidence of the *general* origin of its causes, and left us little reason to doubt that they consist of exhalations from the surface of the earth; and it affords strong confirmation of the observation, that a dry autumn, succeeding a wet winter and spring, is always prolific of malarious fevers. It will be seen by a reference to the meteorological table annexed to this paper, that an unusual quantity of rain fell from the first of December 1824 to the last of July 1825, while the months of August, September, and October, were uncommonly dry and warm; which has been the case, with little variation, during each of the other three years that this city has been affected with epidemic fevers: And the only reason that suggests itself, why the epidemic of 1825, should have been less extensive and malignant than either of the previous visitations, is found in the fact, that very little alteration has been made in the surface of the ground during the last two years, and the city being much more effectually drained than formerly, less facility is afforded for the stagnation of water, and the consequent extensive saturation of the earth. But it must be remarked, that there are still remaining many vacant lots so enclosed with embankments formed by the elevation of streets, and at the same time so partially drained, as to cause a considerable depth of deposit by every shower of rain.

In the winter and spring of 1825, the first wharf for the landing of steam boats was constructed under the hill,* and some store-

* The city of Natchez is divided by a perpendicular bluff 150 feet in height, running parallel with the river, into two parts, commonly distinguished by the terms "*on the hill*," and "*under the hill*," or "*the landing*." The latter includes but a small portion of the inhabitants.

houses having been erected upon it before it was completely filled in with earth, considerable vacancies were left under them, which afterwards became receptacles of rain water, and the washings of the street above. The whole wharf, some hundred feet in extent, and six or eight in depth, was washed on one side by the river, which rose during the spring months nearly to its surface, and, together with the constant rains, kept the immense mass of loose earth of which it was constructed for a long time filled with water. The existence of the disease at this place, where the first cases occurred, was of short duration, and it did not spread, but wholly disappeared on the desertion of the wharf district, which took place immediately on the alarm being given. The breaking out of the fever at the landing evidently had no connexion with the attack upon the main part of the city nearly a month afterwards, and scarcely requires to be mentioned here, except as being the first instance of the occurrence of a malignant fever at that place, before it had appeared in the more populous section of the city upon the hill; and as appearing evidently to depend for its causation upon the single circumstance of the construction of a *wharf*, which, upon the prevalence of much dry weather succeeding the wet season, and the fall of the river, gave rise to the same exhalations that have so often produced precisely similar results in every other part of the city.

During all the winter and spring months, and as long as the frequent rains continued, the city remained healthy. No one disease prevailed to any considerable extent; and indeed, with the exception of some few cases of pleurisy, pneumonia, &c. scarcely any cases occurred which required the attendance of a physician. About the 15th of August, bilious fevers began to be more common, but were generally mild and tractable. On the 20th, a case of "malignant fever" was reported, which originated under the hill in the vicinity of the new wharf. This was the first case that excited much alarm, but the same day we had a violent gust of wind and rain from the south-west, and continuing to rain all night, it seemed to arrest the progress of every thing like fever; and afterwards very few cases occurred until the 27th, when another case similar to the above, proved fatal. This was also contracted under the hill, where some others were at the same time reported to be sick with malignant symptoms. On the 29th, the physicians

of the city held a meeting, and after ascertaining that there were three cases of malignant fever at the landing, and that *all* the cases of this nature which had yet occurred, had originated within a small section of the city adjacent to the river, they recommended to the Board of Health, "an interdiction of intercourse with the infected district." But the Board chose rather to advise the citizens generally, "to remove from the city as soon as practicable." In consequence of which, about two-thirds of the inhabitants fled immediately to the country. The infected district, confined to a very small square consisting altogether of store-houses, was soon abandoned by all its inhabitants, which terminated the progress of the disease at the city landing for the season.. Ten persons, are estimated to have died from exposure to the effluvia of the little district infected.

No case of malignant disease had as yet originated on the hill, and this portion of the city continued to be quite as healthy as is usual at the same season, until about the 17th of September, when the attacks of fever were evidently increasing, both in number and violence. On the 22d, we had a gust and shower from the north-west, and subsequently the city became more healthy; so that, on the 26th, the yellow fever having made its appearance at the village of Washington, the place of general refuge, many persons and families began to move back to Natchez. Immediately afterwards, the weather became again very dry, and the city more and more sickly, but with not many cases termed *malignant*, until the 13th and 14th of October, when much alarm was created by the fatality of the diseases, and many of the inhabitants again sought security in the country. The disease now continued with little abatement until the 26th, when we had a heavy shower of rain. The next day the wind changed to north-west, and blew strong and cold, and during the succeeding night the thermometer fell to 34°, which induced many families to move into the city. The weather continuing cold, the Board of Health on the 2nd of November declared the town healthy, and invited the inhabitants to their homes. From this time until the 20th, there were occasional sporadic cases of malignant fever, which, however, produced little alarm, and the business of the city went on as briskly as ever.

After the 10th of August, bilious fevers began to prevail extensively in the country bordering on the Mississippi river, both above and

below Natchez, and for a number of miles in the interior. These exhibited a degree of malignity not often observed in country practice here, and not unfrequently terminated in black vomit. Indeed, until the 1st of October, the fevers of the country were acknowledged to be more violent and less easily controlled than those of the city, by every physician who had opportunities of witnessing the progress of both; and during the whole season, their fatality has not fallen far short of that which the inhabitants of the city have suffered. Since the first settlement of this country, autumnal fevers have never prevailed in the neighbourhood of Natchez, with such violence, and extent of mortality, as during this season.

The whole history of the epidemic of 1825, when taken in connexion with those of 1817, 1819, and 1823, which so far as concerns the city, correspond very nearly with it, affords us little reason to doubt that the causes which have produced the several visitations upon this city, were of a *general* nature, producing their effects upon its whole extent simultaneously; and that these have mainly depended for their origin, upon the occurrence of much wet weather during the winter and spring months, followed by unusually dry and hot weather in August, and the autumn months. And it is well worthy of remark, that a malignant epidemic has invariably prevailed in the city, after such peculiarity of weather since 1816, at which time, the great changes that have since been effected in the superficies of the city, were commenced. Previously to that time, the diseases to which the city was subject, did not differ materially from those prevalent in the adjacent country, either in extent or mortality.

All inquiry into the existence of *local* causes, such as the decomposition of accumulations of vegetable or animal matter, seems to be wholly unsatisfactory in accounting for the occurrence of these repeated calamities; because the disease, with the exception of its temporary existence upon the newly made wharf, has never been traced to any particular *local* origin, from whence it might have extended its influence over every other part of the city. But the epidemic has, in every instance, been so general in its commencement, and so evidently the common autumnal fever, with a gradual increase of malignant symptoms, that there has always been much difference of opinion for a number of days, as to its real existence.

Besides, no new and unusual accumulations of either animal or vegetable materials, in a state of decomposition, have been discovered in sufficient abundance, to account for a *local* origin of the disease. Indeed, popular opinion, which after so many opportunities of observation, ought to have some weight in the argument, is almost entirely in opposition to such causation.

Symptoms.

The more violent cases of fever, which occurred upon the first appearance of the disease at the landing, and also those that originated on the hill after the middle of September, as well as all the malignant cases in the adjacent country, were characterized by the usual symptoms of malignant epidemics in hot climates. Nearly every case was strongly marked by appearances of inflammations or congestions, either general or local. A large majority, however, were highly inflammatory in the commencement, the symptoms of which were rarely confined to any particular organ of the body, but diffused themselves throughout every part of it, appearing with the greatest violence during the first two or three paroxysms, in the head, back, and limbs, and attended by the most acute pains in these parts. The abdominal viscera were at the same time less violently affected, but as the disease progressed, these became more particularly the seat of it. The stomach, intestinal canal and kidnies, seemed now to be the organs principally diseased, and ultimately became almost exclusively those upon which the morbid affection fixed itself. The most untractable and fatal cases, were always those where the gastric and nephritic disorder was the most apparent. In some of the most violent cases, the whole force of the disease, after the first two or three days, seemed to be concentrated upon these latter organs; and, particularly in its affection of the stomach, gave rise to the most distressing and fatal symptoms. Constant nausea, vomiting, heartburn, great oppression at the præcordia, hickups, &c. were among the common and most unpleasant consequences of this peculiar location of the morbid affection. Inflammation of the kidnies was much less painful in its effects, but scarcely less unfavourable in the prognosis of the disease. It was always attended by a paucity of urine, and frequently by a total suspension of its secretion. A painful dysuria sometimes made its ap-

pearance, and in a few instances a continual discharge of blood from the urethra.

Cases of congestions, either general or local, were commonly the succeeding symptoms of inflammatory attacks. But they occasionally occurred, exhibiting from the commencement every symptom of congestive torpor in the whole sanguiferous system. Such attacks were distinguished from the inflammatory, 1. by the pulse, which was always feeble, languid, oppressed, and sometimes scarcely perceptible at the wrist. 2. By the long continued rigours, attended by the most excruciating pains in the head, back, and limbs. 3. By the smooth, white marble-like aspect of the skin. 4. By the pearly whiteness of the sclerotica of the eye. And, 5. By the general torpor of the whole system, and its unsusceptibility to the operation of medicine. Unless the circulation was speedily relieved of its languor and oppression, and the vital powers of the system restored to their usual vigour, all the most malignant symptoms of the disease soon made their appearance; costiveness, with a total suppression of the secretions of both urine and bile, was followed by vomiting, laborious respiration, delirium, cold extremities, black vomit, and death. The surface of the body, during the whole course of such attacks, would remain cool, and sometimes covered with a viscid clammy sweat, and in the latter stage of the disease, the eyes and face appeared suffused with blood, exhibiting a turbid and unnatural aspect.

This fever was generally *remittent*, with one, and oftentimes two exacerbations and remissions in twenty-four hours; but in either case, the most distinct remissions almost invariably occurred in the morning, and the greatest exacerbation in the evening or during the night. In many congestive attacks, the exacerbations and remissions appeared to be so imperfect and indistinct as to be observed with difficulty; but I have never doubted their existence, in all cases where I have had good opportunities of closely watching the progress of the disease. During the latter part of the season, there were many distinctly marked cases of quotidian and tertian intermittents, but which commonly ran into the remittent type after a few days; and when these came to a fatal termination, they were scarcely less liable than others to end in black vomit.

Treatment.

The symptoms of every possible variety of this disease have

been so often detailed by men of science and observation, that every one who has paid attention to the subject, has become familiar with them; and the pathology of malarious fevers is probably at this time as well understood as that of most other diseases. With regard to their treatment then, one of two important conclusions is irresistibly forced upon us, viz. either that they do not admit of a management as successful as most other diseases, to which the human body is liable; or, that a knowledge of the most efficacious treatment of them, has not been cultivated advantageously, and kept even pace with the inquiry into their pathological character. It is truly melancholy to observe the great variety of changes that have taken place in the treatment of these fevers during the last century, and with what trivial advantage. The three grand systems of *stimulation*, *mercurialization*, and *depletion*, have successively been adopted by physicians, but always under the influence of prejudices and restrictions, which have so clogged and fettered the operations of each, as to produce very little actual difference in the results.

These systems have been the *hobbies* of their particular advocates, and such contentions have arisen about determining the peculiar merits of each of them, that prejudice and envy have been made to take the place of reason and candour, so as to confine the ambition of members of the faculty, pretty constantly, to the propagation and establishment of some particular theory. Thus, the plan of stimulation, when once adopted, was rarely allowed to be mingled in any degree with that of depletion, not even so far, sometimes, as to permit the free evacuation of the intestinal contents, and much less the loss of blood. The system of depletion, likewise, has often been followed up with too close a reliance upon the theory of counter-stimulation, without a due regard to the necessity of supporting the vital and animal powers. While the mercurializing treatment, has usually been so implicitly relied upon by its advocates, as to induce them to interdict the co-operation of either of the other systems of practice to much extent, and the patient has too generally fallen a victim, to a misplaced confidence in the *peculiar* operation of one particular remedy.

In making public an account of the treatment of this disease, it is natural for us to give preference to the plan we have adopted, and believe most proper, particularly as it is the one with which

we are best acquainted, and of which we are best able to speak from actual observation and experience. And this is the course I have determined to follow in this instance, taking the liberty at the same time, to disapprove of what I consider some of the most prominent errors, committed by others.

In every violent attack of the disease, the first remedy invariably applied was blood-letting. Whenever the primary symptoms were of a decidedly inflammatory character, attended by a full, strong pulse, and acute pains in the head, back and limbs, a copious bleeding was always at once prescribed. The quantity taken, however, was regulated wholly by the effects produced upon the general system, and I have rarely known it to exceed two pounds at the first bleeding, and subsequently the quantity was generally somewhat smaller. It was considered an advantage of considerable consequence, to be able to perform this operation during the existence of the first paroxysm; which, together with other active remedies, generally procured an early remission. In most instances, the second paroxysm required similar treatment with the first, and frequently, it was found necessary to employ blood-letting, for two or three subsequent exacerbations of the disease. A recumbent posture was usually enjoined during the operation of bleeding, as more blood could be drawn in this position, without affecting the force of the arterial circulation, or producing syncope; effects generally required, but the ultimate benefits of which depended upon the loss of a considerable quantity. Nothing is easier than to produce syncope in a severe attack of fever, by bleeding the patient in an erect posture, from a large orifice, and without the actual loss of much blood: But, however well this practice may accord with the *theory* of the pathology and treatment of this disease, I am certain that the *effect* is temporary and inefficient.

Whenever the attack exhibited symptoms of extensive congestions, it became necessary to apply this remedy with greater caution. The danger of collapse from a too sudden abstraction of stimulus, when the system was labouring under an oppressive circulation, rendered it important not only that the vital powers should be cautiously sustained during the operation, but that the loss of blood should be more gradual, and effected in small quantity, at short intervals. This course was found to be the more feasible,

on account of the greater length of the exacerbation of fever in congestive cases, and the shorter and less distinct remission, which admitted of the repeated application of the remedy during the same paroxysm. The tepid bath, together with the exhibition of some diffusible stimulus, was often found useful in giving the system the necessary support during the operation, as in the following case.

A healthy robust young female was suddenly attacked with every symptom of congestive fever. Her pulse was slow, languid, and scarcely perceptible; her skin cool and pale; her eyes wild, and the conjunctiva of a pearly whiteness; and her whole system agitated by constant rigours. She complained of agonizing pains in the head, back and knees, was covered over with blankets, and had been drinking freely of hot teas and hot toddy. A bath was immediately prepared, in which she was placed, and remained about half an hour, with the water as warm as it could well be borne. Two or three doses of volatile alkali were administered, and she drank plentifully of warm ptisans. Appearing much relieved of chilness, and her pulse having become fuller and stronger, one pound of blood was taken from the arm, upon which she became faint, and vomited freely. Some very active cathartic medicines were given, and she seemed a good deal relieved of pain. After three hours, her pulse was found to have increased, both in frequency and strength, and the pains in the head, back and limbs had returned, but with less violence than before. She now lost one and a half pounds of blood, and her medicine having operated freely, she appeared again much relieved. After another period of about three hours, it was found necessary to take another bleeding of a pound and a half, and subsequently the case assumed the type and character of our ordinary inflammatory attack. She was convalescent on the sixth day, and rapidly recovered.

Such is the termination of most of the cases of congestive fever which come to a favourable issue. When treated with bloodletting to the necessary extent in the commencement, they almost invariably assume the character of inflammatory cases, and are afterwards quite as easily managed. But it must be remarked, that to produce this effect, the most active treatment is required, cautiously and watchfully applied. And it should be remembered,

that in no disease to which the human body is liable, are delays more dangerous. The neglect or postponement of the application of proper remedies for a very few hours, is often productive of fatal consequences.

The state of the stomach and bowels is the next important object of attention. The former organ was usually found affected with a constant nausea, and a disposition to vomit; and the bowels, in nearly all cases, suffered from obstinate constipation. The first was commonly relieved by large draughts of warm water, or of some simple ptisan, which in most instances served effectually to evacuate the contents of the stomach, and at the same time to relieve the distress and nausea of that organ. Preparatory to answering the second indication of obviating costiveness, a scruple of calomel was administered, not so much with a view of obtaining the benefit of its cathartic operation, as for the purpose of appeasing the remaining irritability of stomach, sufficiently to enable it to retain the more active purgatives. Epsom salts, jalap and cream of tartar, or castor oil, were the usual remedies which succeeded the first dose of calomel; and these were prescribed in such quantity as was deemed necessary to produce a cathartic effect in the course of three hours. Afterwards, the dose of calomel was repeated; or sometimes, in its stead, a dose of calomel and jalap, calomel and scamony, or the following:

R. Sub. Mur. Hydr. . . . . ℈iij.
Pil. Aloes cum Colocynth. . . . ℈iiij. *m.*
Divid. in. Pil. No. xx.

From four to six pills were given at a dose. Calomel, however, was generally preferred to be given by itself, and always then, in scruple doses, its cathartic operation being ensured by alternating with it, other purgatives.

It is both curious and instructive to observe the many changes that have taken place in the medical application of mercury for the cure of diseases. In the treatment of fevers, its efficacy has for a long period been supposed to depend upon the contingency of its producing a peculiar excitement of the whole system, the existence of which could only be tested by its sialagogue effects. For this object, the remedy is prescribed in small and frequently repeated doses, and nearly always in combination with opium; a practice, in some diseases perhaps useful, but oftentimes exceed-

ingly disastrous in its consequences. The time *has been*, when the reflection that a patient had been sedulously plied with calomel and opium, no matter in what disease, or under what circumstances, served not only as a certain salvo to the conscience of the physician for want of success, but as an almost certain protection of his professional reputation against the cavils of his neighbours. It was all-sufficient for him to declare, that the patient *could not be salivated!* But that time has now gone by. The experience of even the *planters* of this country, in the management of their slaves, has convinced *them*, that this is not a successful practice; and the better informed among them, would not now hesitate to impeach the skill of any medical man, who would recommend it for the cure of any variety or grade of fever.

The medical profession has been slow to adopt the plan of administering calomel, which seems so clearly pointed out to them both by reason and experience; and it is only since the masterly works of Dr. James Johnson have been extensively circulated, that the practice of using this medicine in *large doses* has generally obtained. Like many other innovations in medicine, however, this has usually been adopted under such restrictions and modifications, as have rendered it productive of very little advantage, in the management of our most fatal diseases. Physicians, although commonly enthusiastic in their reliance upon newly discovered remedies and principles in medicine, find it exceedingly difficult to divest themselves entirely of long received and established theories. Pride, prejudice, and the authority of books, all combine to produce this effect; and it is a natural consequence, that, however useful or important the innovation may be, when put in common practice, it becomes so amalgamated with preconceived notions, as to impair or wholly destroy its usefulness, and its reputation is lost. This has been the case to a considerable extent with the change of practice in regard to the use of calomel. For while it is acknowledged, that the increased magnitude of the dose is an important improvement in the treatment of many diseases, still it is contended that the usual addition of *opium* must be as necessary as before, and indeed more so, to prevent an immediately cathartic operation—the identical effect required.

Under such restrictions, the new method was found inadequate to the production of all the benefits expected from it, and to

enable its professed advocates distinctly to show some important result from the improvement, a farther experiment was deemed proper, and the medium dose of 20 grains was increased to 40, 80, 100, and in some instances to 150 grains. Because this enormous quantity was found to produce no immediately injurious effects upon the system, its purgative operation not being increased in the ratio of the increase in the magnitude of the dose, it was believed that the experiment had fully succeeded, and the long wished for desideratum in the medical use of calomel, was at last understood. But these attempts at improvement, in the method of treating febrile diseases, it would not be difficult to show, have wholly failed of their object, and have actually produced in practice not more favourable results, than the system which taught the use of the *blue pill.*

Many of the physicians of this country have adopted the plan of treating fevers with large doses of calomel, but nearly all that have done so, have also combined with it the prominent error of the former practice, in the simultaneous exhibition of opium, either with a view to retain the mercury a sufficient length of time in the system to produce its peculiar constitutional effects, or retard its operation upon the bowels, and prevent hypercatharsis. An object of great moment in the cure of fever, has led many practitioners to the commission of the like remarkable error, viz. the necessity of so varying the purgative treatment as will certainly prevent the occurrence of frequent watery discharges; and this is considered a strong argument in support of the practice in question. No prescription is now more common than that of giving fifteen to forty drops of laudanum, after the doses of calomel exhibited have produced a certain number of discharges, or when these have assumed a watery appearance; and I do most conscientiously believe, that no practice was ever more destructive. Want of sleep and rest, universal symptoms of the higher grade of bilious fevers, afford the advocates for the use of opium another argument in favour of the prescription of their favourite remedy. None can be more fallacious, none more absurd.

Opium seems to exert a baneful influence in epidemic fevers to a much greater extent, than can be properly attributed to its constipating effects. This is a remark made, I believe, by Dr. Rush, and will be found true by all who follow his footsteps in impartial

inquiry. In what particular manner this effect is produced, whether by inducing torpor of the lacteal and lymphatic vessels, or in some other way, I will leave to others to determine. The fact of the impropriety of the practice is all I contend for, and this will be readily acknowledged by every unprejudiced mind that has witnessed its disastrous consequences.

The existence of morbid matter in the intestinal canal has long been acknowledged as an efficient exciting cause of fevers, and no indication in their treatment has more generally been acknowledged, than the necessity of a free evacuation of these morbid accumulations; but the duration of the indication, and the proper manner of answering it, are subjects upon which the profession is much divided. Concerning the *first* evacuations, however, the little discrepancy that exists is perhaps of little consequence, as their importance is acknowledged, and they are always a primary object of consideration. But subsequently it appears to be a commonly received opinion, either that this indication ceases to be of much importance, or that another quite as necessary becomes associated with it; which is no other, than that for effecting a mercurial action in the system, and which is acknowledged necessarily to include the administration of opium. The invariable tendency of every paroxysm of fever, is to produce constipation of the bowels, and this, unless in some way or other counteracted, always constitutes an additional exciting cause of the disease. Now even the small quantity of opium that is deemed necessary to prevent the too rapid progress of the mercury through the system, cannot fail to increase this disposition; and experience teaches us that this is invariably the effect produced.

Finally, as a reason for condemning the use of opium in the treatment of these diseases, I have the results of my own experience, which I would not readily relinquish for any other authority. Having become convinced of its impropriety, and of its absolutely deleterious effects, I have for more than two years proscribed this article entirely from my list of remedies for the autumnal fevers of this climate, and during this period have not given one grain in such cases. The results effected by this change in my own practice, have been satisfactory beyond my most sanguine anticipations; and so firmly am I convinced of its propriety, and the absolute necessity for the exclusion of this article from

common use in these fevers, that I should consider my life as well spent, if by a continued effort I should be able to confer such a signal benefit upon mankind as the accomplishment of this one object.

Calomel, when given alone, I have always found to produce the best effects in scruple doses. A smaller quantity than this operates more frequently, producing greater irritation of the stomach and bowels, and causing frequent watery dejections, which rapidly debilitate the patient. In a larger dose, although it does not always create any symptoms immediately unfavourable, yet no additional benefit is observed from it, and it sometimes becomes a source of much irritation, operates too frequently, and produces too great a degree of prostration. While the medium dose of twenty grains rarely fails to quiet the irritability of the stomach and bowels, and carry off large quantities of feculent bilious matter, without griping, tenesmus, prostration, or any other untoward symptoms. This dose may be given more or less frequently, as the nature and violence of the disease may appear to require.

Another practice which I cannot but consider very reprehensible, is that of giving *emetics* indiscriminately in these fevers. In the milder cases of bilious fever, it will not be denied that apparently beneficial effects are sometimes produced by this practice, when the remedy is given at the commencement of the first paroxysm; but yet it is contended that even under such circumstances, a few tumblers of warm water or chamomile tea will generally answer the indication with as much efficacy, and more safety. My objections to the use of an emetic in malignant cases of fever are, 1st. it commonly, and invariably when given after the disease has been confirmed, produces great irritability of stomach, continued vomiting, and great oppression at the præcordia; symptoms always to be deprecated, and the most difficult to overcome of any to which the patient is liable. 2nd. It unfits the stomach for the retention of the proper cathartic medicines, a due operation of which is of such vital importance to the patient. 3d. It serves to hasten that crisis of the disease, in which the morbid powers seem to concentrate upon the stomach, and gives rise through the medium of this viscus, to the most distressing and fatal symptoms, which are often the precursors of black vomit and death. Very many cases, after the administration of an emetic,

have been known to run through their course to a fatal termination, before the stomach could be so far controlled as to admit the operation of a single cathartic. During the present season, a soldier was attacked with all the symptoms of a violent fever, and, during the first paroxysm, took repeated doses of a solution of epsom salts and emetic tartar, in an infusion of senna. A violent vomiting was produced, which, notwithstanding every exertion to check it, continued for three days, when the patient died in the act of ejecting large quantities of black matter from the stomach, streaked with blood. Numerous limpid stools were also in this case produced, but no medicine after that above mentioned could be retained upon the stomach a sufficient length of time, to produce a favourable catharsis. Cases equally unfortunate are not uncommon during the prevalence of the malignant fevers of this climate. Many reputable authorities could be adduced in opposition to this dangerous practice, among whom Dr. JOHNSON stands pre-eminent, both on account of his distinguished talents as a physician, and the extent of his experience in the treatment of these diseases. In speaking of the Mediterranean fever, he says, "in one case which proved fatal, Dr. BURNETT's assistant gave the patient an emetic of tartarized antimony, the consequence of which was, that the vomiting increased, and never afterwards for a moment left him; he passed blood by the nose, mouth, and anus, and finally died at the hospital." "*Let this prove a lesson*," says Dr. J. "*against emetics in fevers of the warmer regions, where gastric irritability is one of the most formidable symptoms we have to encounter.*"

But to return from this digression. It is, in all cases of malignant fever, not only an object of the first importance to *acquire*, but to *maintain* complete control over the functions of the alimentary canal, throughout the whole course of the disease. For which purpose, it is necessary to exercise the greatest possible degree of vigilance; for it is impossible in many instances to calculate with any degree of certainty, upon the operation of even the most active doses of medicine; and should the patient be suffered to remain too long, even after one good impression has been made, without some exertion to continue the effect, it may become more difficult to obtain a second advantage of the kind, than was experienced with the first. As the disease progresses, the offen-

sive morbid matter is accumulated in the intestinal canal with the most surprising facility, and in almost incredible quantity; and such is the degree of intestinal torpor, caused by over stimulation, that it is often necessary to resort to a variety of powerful cathartics, conjoined with the use of blood-letting, blisters, sinapisms, bathing, enemata, &c. before the bowels can be thoroughly evacuated. Sometimes when we suppose our control over them to be complete, we are often disappointed in our expectations—some little negligence, delay, or improper management on the part of the patient, depriving us of our advantage, which, perhaps, it is impossible for us to regain. And here I cannot but revert again to the improper use of opium, which is frequently resorted to by *nurses*, to give temporary relief from pain, or for the purpose of procuring sleep, in the absence of the physician. So common is this practice, and so uniformly injurious, that I rarely fail, on being called to a patient attacked with malignant fever, to enjoin it forcibly upon the nurses, that under no circumstances is opium in any shape to be given. Under a conviction of the vital necessity of cathartics, I have made it a constant rule to administer, not only calomel, but every other purgative, in doses of such magnitude as seem best calculated to produce free and copious discharges, which I consider far preferable to the practice of giving frequent small doses, that are very apt to produce watery dejections, and much irritation of the bowels. And I have as constantly adopted the practice of giving such doses, in as rapid succession as the patient could well bear, during the first two or three days of the fever. In no case, do I consider myself justifiable in waiting longer than three hours for the operation of any one cathartic, before it is followed by some other, and frequently, much less time is suffered to elapse.

This is a stage of the disease, that requires the most determined treatment on the part of the physician, and which is too often suffered to pass, with very ineffectual efforts to relieve the system of its accumulated burdens. In cases of the greatest severity, more can undoubtedly be done towards curing the disease, by active and judicious management during the first twenty-four or thirty-six hours, than for the succeeding two or three days. No fears should ever be entertained at this period on account of *debility, prostration, typhus*, &c. which, like *witchcrafts*, are *bugbears*

to be found in the imaginations of those only who believe in them. Whenever I have seen a case of great debility and prostration during the first two or three days of the disease, I have invariably found it to proceed from want of active depletion, and I have as constantly remarked with regard to such cases, that the strength and powers of the system were invigorated by blood-letting and purging.

In the latter stages of the disease too, the patient is even more liable to suffer from inattention to the purgative treatment. Then it is, that both physician and patient generally consider the system too weak to bear evacuations, and such a cautious, temporizing practice is the consequence, as favours the accumulation of such a mass of morbid matter in the intestinal canal, as is well calculated by the increased morbid excitement it produces, to overcome the powers of life. The patient becomes languid and restless; his strength suddenly leaves him; his respiration is laborious; his pulse faulters; his stomach rejects every thing; a continual vomiting sets in; the coffee-ground matter makes its appearance, and the attendants are not disappointed; he dies of debility! That the medical treatment during this rapid declension of the vital powers should not be, what it too generally is, an active system of stimulation, calculated only to increase the evil it would remedy, I think every one must be convinced, who understands any thing of the pathology of the disease, or has ever witnessed, in a single instance, the effects of a different practice. The indication for purgatives in this case, appears to me to be as clear as that for removing a foreign body from the eye, for the purpose of curing ophthalmia, or a nail from the foot, for the relief of traumatic tetanus.

A female, about twenty years of age, and of good constitution, was suddenly attacked with all the usual symptoms of inflammatory fever, attended with a lively delirium. She was immediately bled, which operation was two or three times repeated during the first day; took repeated doses of purgative medicines, which operated well; and although extremely ill, her case was considered in nowise very alarming, until on the eighth day, when in consequence of having passed twenty-four hours without any considerable operation from the bowels, her strength declined so rapidly, that in a few hours there seemed to be scarcely a sign

of life remaining. Sinapisms were extensively applied to all her limbs, stomach, and nape of the neck, and spirits of ammonia put into her mouth every few minutes by the teaspoonful. Under the operation of these stimulants she soon revived; she was able to take nourishment and to speak, although with difficulty. I now plainly perceived the error that had been committed, and immediately set about to remedy it by the exhibition of purgatives; although she was yet labouring under such a degree of prostration as scarcely to enable her to raise her head from the pillow; her pulse feeble and intermittent, her deglutition difficult, her tongue covered with a thick dark coating, her teeth loaded with sordes, her abdomen much swollen, her stomach irritable, and a painful sensation of heat and distention in the epigastrium, together with much mental alienation.

A scruple dose of calomel was first given, which was followed in about half an hour by one and a half ounces of castor oil. These producing no effect, she became exceedingly restless, and found no relief except in the exhibition of enemata, which were given every half hour, without, however, producing much evacuation. Two hours after taking the oil, thirty grains of jalap, and sixty of cream of tartar, were given in combination, and the whole abdomen covered with a blister. Three hours afterwards, no operation having been obtained, one ounce of epsom salts, dissolved in a strong infusion of senna, was directed. At the end of another period of three hours, one and a half ounces of castor oil, with the same quantity of oil of turpentine, were administered, a part of which she vomited. The enemata had been continued all this time every half hour, with scarcely any purgative effect, but always affording momentary relief; she had taken a spoonful or two of chicken tea every few minutes, and occasionally, a dose of ammonia.

The case was now considered hopeless, and about four hours suffered to elapse without any farther attempts to open the bowels, except by the continuance of the enemata, which she found constantly necessary, to alleviate her sufferings. As a *dernier resort* in this condition of the patient, the croton oil was recommended, of which one and a half drops, were given in a little chicken tea. After an hour and a half, an enormously large evacuation of dark fœtid matter was produced, to the indescribable relief of the pa-

tient. The increase of her strength was such, even during the operation, as to strike her attendants with astonishment, and it continued to improve from that moment; her mental faculties were soon perfectly restored, and under the operation of a succession of cathartic medicines for ten days afterwards, of which senna and manna were the principal, she completely recovered.

Subsequently, I found the croton oil a valuable remedy in many cases, when difficulty occurred in keeping the bowels sufficiently open *in advanced stages of the disease*, and repeatedly prescribed it in doses of one to two drops with admirable effect. From the limited experience I have had with this medicine, it appears to me important that its use should be confined to the declining stage of fever, when the inflammatory action has much abated. Under such circumstances, I have also prescribed it in cases of gastritis, and enteritis, with decided benefit.

I have known many cases of malignant fever take a favourable turn most unexpectedly, from the accidental effect of some purgative medicine, in the last stage of the disease; and I have heard of one case this season, which terminated favourably, after having been wholly given up, from the copious operation of a dose of calcined magnesia, taken by the patient's own accord. But such instances are rare, compared with the number that fall victims to the opposite mode of practice.

After the disease had been subdued, it often became necessary to assist the powers of nature, in restoring the constitution to its original vigour, by the exhibition of tonics. Besides the usual remedies commonly resorted to for this purpose, the sulphate of quinine has been much used during this season, and when given with the proper attention to the state of the system, it seems to have answered the object remarkably well. But like all other new remedies it is liable to great abuses. Its peculiar effects upon the system are those of the bark in substance; but, as the stomach retains this preparation much better than any other form of the same medicine, and indeed hardly ever rejects it, it is more difficult to determine when this viscus is in a proper state to receive it, or when it will do injury; and the benefits to be derived from its exhibition are often sought after, by an experiment, dangerous to the life of the patient. Hence the necessity for more caution in its use, than in the employment of the bark in substance,

the good, or ill effects of which, can generally be determined by the operation of a single dose upon the stomach alone.

Convalescence from this fever has generally been rapid, as is common in like cases; but during the month of December, many persons who had had the disease, were attacked with jaundice, some cases of which proved very obstinate. A repetition of scruple doses of calomel, every second or third day, for a week or two, followed by some bitter tonic, I found to be the most effectual treatment.

A summary account of the quantity of rain which fell at Bellemont, three miles south of Natchez, from the 1st of December, 1824, to the 31st of December, 1825. The fractional numbers denote 225 parts of an inch.

Months.	*No. of rainy days.*	*Depth of rain.*	*Total.*
1824			
December,	9.	11.85	
1825			11.85
January,	6.	4.15	
February,	6.	3.220	
March,	8.	10.205	
April,	11.	8.20	
May,	7.	4.200	
June,	9.	4.217	
July,	6.	3.145	
August,	6.	2.200	
September,	3.	1.55	
October,	2.	1.15	
November,	5.	6.70	
December,	4.	3.180	
			55.192

$67\frac{42}{225}$ inches.

Mean temperature at Bellemont, three miles south of Natchez, for 1825.

January, $49\frac{1}{3}°$	April, 69°	July, $80\frac{2}{3}°$	October, 66°
February, $57\frac{1}{3}°$	May, $76\frac{2}{3}°$	August, $80\frac{2}{3}°$	November, 55°
March, $63\frac{2}{3}°$	June, $76\frac{2}{3}°$	September, $74\frac{2}{3}°$	December, 44°

Note.—The thermometer is noted at sun-rise, at 2 o'clock, P. M. and at sun-set.

History of the Natural and Modified Small Pox, or of the Variolous and Varioloid Diseases, as they prevailed in Philadelphia in the years 1823 and 1824. By JOHN K. MITCHELL, M. D., and JOHN BELL, M. D., attending physicians at the then Small Pox Hospital.

(CONCLUDED FROM PAGE 53.)

THE second part of our task, is a sketch of the modified Small Pox or Varioloid Disease. In this, as in many other cities, it was observed that soon after the appearance of the variolous fever, in persons on whom neither vaccination nor inoculation had ever been practised, others residing in the same house, but who had been previously vaccinated, were seized with a malady, resembling that of small pox in its precursory fever, and a subsequent eruption, but usually distinguished from it in the speedier subsidence of disease, and, generally, return to health. This fact, observed on a large scale in several parts of Great Britain, and in Baltimore in our own country, soon became the signal for alarm. Unlimited confidence in the all-protecting power of vaccination, now yielded to doubts almost amounting to a denial of its efficacy in warding off the variolous disease. Such extremes abound in the history of the human mind, usually averse to the trouble of investigations, in which the truth does not immediately appear. Slow in yielding up an old and favourite opinion, we usually prefer, however, an entire abandonment of it, and the admission of a totally opposite and decided one, rather than take a middle position, which is to be sustained by evidence brought from various quarters. That vaccination was a preventive to the attack of small pox, was a proposition for the most part accurate; that it was an infallible and invariable safeguard, was never believed by those who knew any thing of the history of cow-pox, from its first introduction by JENNER, down to the present time. Exceptions to its protecting power were of not unfrequent occurrence, and had been duly recorded. It was only, however, when the increase of these exceptions became numerous during a season of epidemic small pox, that people generally were found to abandon their creed, and no longer consider a vaccine scar as conferring on its wearer a charmed life. Ill timed fear supplied the place of unlimited confidence, and the oracular look of mistrust in the few, was the signal for panic in the many. A suggestion of some

physicians, about the susceptibility to small pox being only destroyed for a certain time by vaccination, was hastily seized on by a portion of the disturbed public, who became eager for revaccination. That some of them were gratified in this wish, arose more, we must presume, from a good natured desire on the part of their medical advisers to tranquillize their uneasiness, than from any conviction in the latter, of the necessity of the operation.

There were not wanting some among the faculty, though we believe the number was very small, who advocated inoculation for the small pox in place of vaccination, as a means of protecting those who had not been previously subjected to either process. This opinion, partly the result of ancient prejudices, which the success of vaccination had not entirely dispelled, and in part grounded on present fear, was, however, very properly prevented from having injurious practical tendency, by legislative enactment, in which inoculation was forbidden under heavy penalties. The most melancholy effects of ignorant wilfulness, and of blindness to advice and remonstrance, were exhibited by those parents and nurses who suffered infants at breast, and children, to contract the natural small pox, by purposely exposing them to the contagion, and, in some instances, by inoculating them.

The reader must not infer from this notice of the contrariety or various shades of opinions among the people, that the majority of the members of the medical profession, either stood aghast at the invasion of the unexpected enemy, or resorted to temporary expedients, or random experiments, to arrest its progress. Temperately, but firmly, they urged the superior advantages of vaccination, over any other known means of present security or future prevention. Acting up to this recommendation, they assiduously and unremittingly continued to perform the operation.

This sketch of popular opinions and fears, on the appearance, and during the prevalence of the variolous and varioloid diseases, will not, we believe, be without its value. The knowledge of past errors is the best pledge for future discretion and wisdom. To the physician, lessons of this nature are of paramount value, placed, as he is, in the triple capacity of sentinel, counsellor, and protector, in these emergencies of new or wide spreading diseases. He must be the first to see the storm, the readiest to devise the

means of protection on its approach or progress, but the last to retire before its attacks, or to quail at its devastations.

Before we speak of the effects of the variolous poison on the vaccinated, we must beg leave to press on the attention of our readers, the admitted and indisputable fact, that nearly every history of small pox, prevailing extensively or epidemically, furnishes cases of persons attacked and dying of the existing disease, who had gone through a previous one, and that so unequivocally, as to have been much marked and scarred. Similar returns have been noticed after inoculation. It was also well known, that occasionally, the fever and eruption of small pox would seize those who had been vaccinated.

That in an epidemic season, in which the tendency to cutaneous disease was very great, as in the years 1823 and 1824, the poison of small pox should affect the then three privileged classes, viz. those who had had the disease naturally in early life, those who had had it by inoculation, and those who had been vaccinated, was not an anomaly.

The operation of the variolous poison, when it took effect on the vaccinated, was often similar for the first few days, to that on the unprotected, that is, on those who had never been subjected to inoculation or vaccination, or who had not been in any former period attacked with the small pox. The fever, the gastric distress, and pains in the back and head, were occasionally as distinctly defined, as in the first period of the unmitigated disease. In some cases, the activity of the circulation, and the determination to the brain, seemed to be greater in the modified, than in the unprotected subject. The eruption on such occasions, was at first of maculæ, in abundant crops, of a crimson colour, with scarlet borders, especially copious about the back, shoulders and hips. But it is worthy of observation, that these maculæ, smooth and without elevation, would for the most part disappear, without leaving corresponding papulæ. Where the eruption was constant, and proceeded on to maturation, the pustules were usually fewer, the constitutional disturbance at the time less, and the subsequent process of desiccation, more rapid than in the genuine small pox. Nor was there in general, secondary fever in the former, as in the latter. In these particulars, there were, however, some notable varieties; so that some who had been previously vaccinated, were

attacked with such violence by the varioloid disease, or modified small pox, as to have their lives endangered, and the face subsequently marked with the scars from the pustules. But in general, the disease in this form was milder, more obedient to remedies, and very rarely of fatal termination.

It will be observed that we speak of the disease occurring in the vaccinated, and possessing the characters already described as necessarily the product of variolous poison, or that same contagion, which, in the unprotected, produced the natural small pox. The identity of cause of the two forms of eruptive fever, variolous and varioloid, has been, we know, denied by some; but, for ourselves, we see no ground to doubt the sameness, if we are to be swayed by the customary laws of evidence. We are led to this conclusion by the following reasons.

1. Some of the vaccinated have at all times since the introduction of the cow-pox, had, on exposure to the poison of the small pox, an eruptive fever similar in appearance and symptoms to the latter disease, except on the score of its mildness.

2. Some of the vaccinated have, on the introduction of small pox matter by inoculation, had a pustule with an extensive areola, accompanied by fever, and a partial eruption on the other parts of the body.

3. In the same family, persons previously vaccinated have had this modified eruptive fever, while living with, or nursing, those labouring under the natural small pox; and *e converso* persons have had the natural disease without having been exposed to any other known cause than living with others who were then suffering under, or had just recovered from, the modified or varioloid disease.

"The fact that small pox, by effluvia, or in the casual way, can take place within a limited time after the cow-pock, was first observed in Mr. Malim's case, see Med. and Chir. Review, No. 58; and I think Mr. Bevan's case (Med. and Phys. Journal, p. 455. vol. v.) is an instance of the same kind."* "Hence," continues this writer,

* An Examination of the Report of the Committee of the House of Commons, on the claims of Remuneration for the Vaccine Pock Inoculation, containing a statement of the principal historical facts of the Vaccina. By George Pearson, M. D., F. R. S.

"it appears there are two different sets of eruptive instances, *to wit*, 1. Those of the casual small pox contemporary with the vaccina. 2. Those of the casual small pox supervening a few days after the constitutional affection in the vaccina." Dr. Pearson was one of the earliest and most zealous advocates for the practice of vaccination, and his opinion, as just given, comes in most opportunely in the present argument. In his time, we see that the liability of small pox coming on after vaccination, was thought to depend on the recency of this latter operation, merely, we presume, by a process of negative reasoning, for there were no opportunities to ascertain the liability of those vaccinated for a length of time, as the practice was then but of few years' adoption. In our day, we have seen an opposite opinion held, viz. the greater susceptibility to small pox in those vaccinated for a term of years. Experience has shown long ago the fallacy of the first belief; the second must, we think, be abandoned on the same showing.

As regards the second reason on which we ground our conviction of the identity of the cause of the two diseases, variolous and varioloid, viz. that derived from inoculation after the vaccine disease, we can speak with some confidence.

Dr. Henry Neill of this city, among other interesting cases of modified small pox, has kindly furnished us with the following, which fully illustrate the point in question. At the request of a lady, mother of a large family, who was alarmed for her children during the existence of small pox in this city in the winter of 1817—18, Dr. N. introduced variolous matter into the arms of six of them, whose ages were respectively, sixteen, fourteen, twelve, ten, eight, and six years. They had all been successfully vaccinated when a few months old. The four younger children had a slight soreness of the arm, which subsided between the fourth and seventh day from the insertion of the variolous matter; they suffered from no indisposition. The arm of the oldest exhibited a slight appearance of inflammation on the third day from the inoculation, gradually increasing to the eighth, at which time the spot inflamed was about the size of a dollar. She complains on this day (8th January) of chillness and headach, and in the evening increase of fever, pain in the head and back, great thirst, with hot skin, and a full and frequent pulse.

9th. The fever not quite so intense as yesterday, but there is great weeping from the eyes. The inflamed circle is three inches in diameter.

10th. Fever subsided, and inflammation of the arm nearly gone.

11th. Two or three pimples appear, with a small summit containing a whitish fluid, with an inflamed base. The patient complains of sore throat. These pimples dried in three or four days, and others appeared in succession from the 11th to the 17th, making about eight or nine on the face and neck. They all dried in three or four days after their appearance, leaving a yellow scab.

The second, fourteen years old, had a more rapid and violent inflammation of the arm. On the day after inoculation, there was considerable redness, with great itching. On the sixth day, the inflammation had extended so as to occupy half the space between the shoulders and elbow.

8th. Has considerable fever with a flushed face, and is confined to bed.

9th. Fever subsiding, and arm better.

11th. Feels very well, sits up, and has eaten animal food.

12th. Arm more inflamed.

13th. Inflammation again subsiding.

14th. Free from all complaints. An ulcer continued on the arm at the inoculated spot for several weeks.

Dr. NEILL inoculated the children in another family, about the same time, with nearly similar results. One only, aged fourteen years, (the oldest) was affected. On the eighth day after inoculation, she had slight fever, which lasted one or two days only, and was followed by a considerable eruption of small pimples, containing a milky fluid. They dried up in three or four days, and gave no inconvenience.

It was, as already observed, in the earlier maturation and desiccation of the eruption and decline of fever, more than in any other peculiarity, that the varioloid was found to differ from the variolous disease or common small pox—corresponding, in this respect, with the history of the cases above given.

The third reason in favour of the identity of the variolous and varioloid poison, is derived from the circumstances of persons in the same house having been attacked, some, as the unprotected,

with the variolous, and others, as the vaccinated, with the varioloid disease, at such intervals as to be readily explained, by the communication of contagion from the former to the latter, or from the latter to the former, according to the parties first affected. In corroboration of this position, we could, if necessary, adduce a great number of proofs. The following order of events was very common. Some of the vaccinated children of a family to have the eruptive fever termed varioloid, and on their recovering, the infant, not yet vaccinated, to be seized with the natural small pox and die; the wife, vaccinated, to nurse the husband when afflicted with natural small pox, and after his death to have a slight fever and eruption vesiculo-pustular; the husband, unprotected, to attend on his wife while she was confined with the varioloid disease, and on her recovery to become sick and die in the natural small pox; the mother to die of variolous disease, and, immediately upon her decease, four of the children, who had been vaccinated, to be seized with the modified disease, of which all recovered; the father to die of natural small pox, and the infant child, not yet vaccinated, to catch the disease, and die soon after the father, while the mother, who had been vaccinated, had the modified or varioloid disease. For some of these facts, we are indebted to Dr. D. F. Condie, who had the goodness to furnish us with the results of his experience in the natural and modified small pox, or variolous and varioloid diseases. To Dr. Fox also we are happy to acknowledge our obligations for the interesting histories of the different forms of the disease, which he was pleased to place at our disposal. And it is not a little satisfactory for us to add, that, on the important questions above treated, there is an entire accordance of opinion between those gentlemen and ourselves. They, in common, we believe, with a large majority, if not the entire body of our medical brethren, join us in the belief that the risk of attack from small pox, or the violence of the disease when actually occurring in the vaccinated, bears no proportion either to the recency or remoteness of the epoch of vaccination. On this point, we think it needless to insist by the adduction of corroborative cases, which were numerous and conclusive.

Some details, illustrative of the co-existence in the same subject of the vaccine and variolous disease, may not be without interest or instruction. One of us called to visit a little boy, labouring under

a mild and distinct case of small pox, found that the younger brother had not been vaccinated. This operation was performed more from a sense of duty than a belief that it would protect the child from the variolous poison of his brother, then in the twelfth day of disease. Three days after vaccination, the small pox appeared, but went through its course mildly; during the same time, the vaccine pustule was formed, passed through its stages, and on the tenth day was converted into a dry, horny, well defined pock. This family serves very well to illustrate and enforce the position of the variolous and varioloid diseases differing but in degree, and of their acknowledging one common cause. The two oldest children, brother and sister, had visited a family where small pox prevailed, and were in consequence seized with varioloid disease. Twelve days afterwards, the boy above mentioned, who was not vaccinated, had the natural small pox, which he communicated to his brother, the child who was the subject of the experiment just detailed. In two other cases, (boys,) the variolous eruption appeared in one on the fourth, in the other on the sixth day, after vaccination, and ran its usual course with great constitutional disturbance and high fever. In both subjects, the vaccine matter displayed its customary effects on the arm by the formation of pustules and a scab. The inflammation around one was very great, the skin being of a dark red colour. The variolous eruption was particularly copious in the vicinity of the vaccine scabs, and the pustules flat, broad, and confluent. Dr. Fox vaccinated two coloured boys on the same day. In one, the virus evinced its usual effects, and nothing worthy of observation occurred. But the other began to complain on the eighth day, when the vaccine vesicle was distinctly formed. He continued feverish until the twelfth, when a crop of pimples made their appearance on his face; and on the fifteenth, many distinct pustules with depressed centres were observed on the face and arms. The vaccine scab looked perfectly characteristic. On the seventh day of the variolous eruption, the pustules were full. On the ninth day, those on the face began to dry, and on the eleventh, desiccation barely commenced on the extremities. On the tenth day of the eruption, the vaccine scab was removed.

The application of these facts, and many others of a similar nature, which we abstain from recording at this time, is not by

any means of doubtful value. It will teach us a highly important fact, viz. the sameness of the phenomena of small pox and cow-pox in Philadelphia in 1823 and 1824 with those in London in 1799, and go far to establish conclusively the identity in its nature of our small pox with that of the olden time, and show that the vaccine disease is not different now, after transmission from person to person, during such a series of years, from what it was, shortly after its introduction among the human species from the cow. These inferences are fairly deducible from the similarity of effects in the cases of cow-pox and small pox conjoined in the same person, as above narrated, with those noted by Drs. Woodville and Pearson in 1799. Dr. Pearson, after mentioning that Dr. Woodville had vaccinated six hundred persons in the first five months of that year, adds, "It is true that many of these vaccine cases were conjoined with the small pox, from the influence, probably, of the variolous infection; but as the eruptive cases exhibited the genuine cow-pock on the part inoculated,* (vaccinated,) and the matter of it very generally propagated the vaccina, without eruptions in private practice and in the country, it is fair to admit them into the class of cow-pock cases." p. 49, Op. cit. In another part of his work, pp. 119, 120, after adverting to certain misconceptions of Drs. Woodville and Jenner, he goes on to say, "It is no imputation that both conjectured erroneously, for then the new inoculation (vaccination) did not furnish sufficient evidence to manifest what may be considered as either a new law, (more truly two new laws,) or an exception to a law of the animal economy, *to wit*, that two different species of morbific poisons, the variolous and vaccine, can produce their specific effects at the same time in the same constitution, and in a mode unthought of, as well as contrary to the established laws of agency, of the variolous poison. If this new law had been understood at the time of these publications, it would have been known that matter taken from a vaccine pock in the inoculated (vaccinated) part, attended by the small pox, would produce, singly and distinctly, the vaccina on inoculation, as well as the matter of the attending variolous eruptions would produce, fairly and distinctly, the small pox on

* This term was at first in very common use, both as expressive of the introduction of the vaccine and variolous virus.

inoculation; also, the cow-pock can never become small pox, nor the small pox change into cow-pock; nor the poison of the one be destroyed (assimilated as above cited) by the other; nor does it appear that the vaccine poison differs in its properties, according to its production by the cows in London, in the provincial farms of any part of England, in Ireland, in Italy, and in America."

In connexion with this part of our subject may be mentioned the case of a young girl, who was vaccinated on the same day with her father. He sickened on that day with small pox, from which, after a pretty severe attack, he recovered; she had the vaccine disease in the usual manner, and though constantly in the same room with her father, she had no variolous affection.

The second variety of modified small pox, or that occurring in persons who had been previously inoculated for that disease, was of no unfrequent appearance. We watched the progress of the disorder in several, but without being able to discover any diagnostic, which should distinguish it from the natural small pox, and from the modified one after vaccination. The same precursory fever, and variety in the extent of the eruption, was met with in it as in the form of varioloid already described. It more frequently, indeed, approached to the nature of the unmitigated or natural variolous fever, in the intensity of its symptoms, and in its occasionally fatal termination. We were unprepared, from former theories or actual belief, for this seemingly anomalous state of things, and those who clung to the old faith in the superior protection afforded by inoculation over vaccination, and alleged, as proof, the smaller proportion of the inoculated, who were seized with small pox, were, notwithstanding, much staggered, when they learned that the proportion of deaths was much greater among this class of persons than among the vaccinated, who became diseased. Such, in the circle of our observation, was unquestionably the case.

That the varioloid or modified small pox in those who, in earlier life, had been inoculated for the disease, was of the same origin as the varioloid in the vaccinated, and the natural variolous disease, may be sustained by nearly a similar series of proofs to those already given, when treating of small pox after vaccination. The common origin of the eruptive fever in the inoculated, and in the vaccinated, was exhibited, among other cases, in the instance

of a reverend clergyman of this city, who was seized with the usual premonitory symptoms of small pox, and had a regular eruption following it. He had been inoculated when a child, and as evidence of the constitution having been then affected, he could show a scar on the forehead, which his nurse well remembered to have been produced by the variolous fever from inoculation. His wife had, subsequently to his attack, a fever of the same duration, and with the same symptoms, but it subsided on the fourth day, and was not succeeded by any eruption. She had been vaccinated.

The same exceptions to the general rule of non-susceptibility to the contagion of small pox, by those who had the disease once in life, were met with in our epidemic, as in most of those on record. We attended persons in the variolous fever, who had it unequivocally in earlier life; and, still farther, we regret to add, that there were some deaths among this number.

We must not conclude our account of the various modifications of the variolous eruption, without, at the same time, adverting to the great number and diversity of eruptive fevers prevailing during the same period in the city. Chicken pox, measles, scarlatina, erysipelas, were of constant occurrence. Measles in particular was exceedingly malignant during the summer of 1823, or that season preceding the appearance of small pox. The former disease began in May, from which time to the end of the year there were 156 deaths. It ceased in August, 1824, between which and the beginning of that year there were 100 deaths, making, in fifteen months, 256 deaths. It is no forced supposition, that some of these, in the latter part of the season of 1823, were, in fact, from the variolous disease, with the physiognomy of which, especially of some of its varieties, the faculty could not be supposed to be acquainted. Certain it is, that many who sickened with what was thought rubeola, had been previously attended by physicians for this disease.

The following table will show the numbers and varieties of the small pox, natural and modified, which came under our observation at the hospital and in the city.

The cases of all ages and colours amounted in number to 248, of whom 176 were visited at the hospital. Of these there were—

Unprotected.	Vaccinated.	Inoculated.	Prev. Small Pox.	Unk.
155	64	9	7	13
Deaths 85	1	3	3	

In regard to colour the proportion was—

Whites, total.	Whites unprotected.	Col. persons, total.	Id. unprotect.
111	60	122	91
Deaths	31		54

A careful perusal of the preceding history of the eruptive fever in Philadelphia during the years 1823 and 1824, will, we think, lead our readers to join us in the following inferences.

1. That the fever, followed by an eruption which underwent the several stages, papular, vesicular, and pustular, and occurring during the above years in persons who had never been vaccinated or inoculated, or had small pox, was, in its train of symptoms, general physiognomy, and results, precisely similar to the natural small pox, as it has prevailed and been described in former years, and in other countries.

2. That this disease, distressing to the person labouring under it, and disgusting to all those in attendance, is usually violent, never without danger, and always in large proportion, under any known treatment, is of fatal termination.

3. That the unsusceptibility of persons who have once had the small pox to a second attack, though of general notoriety and truth, is not universal, and that with us, as elsewhere, persons, thus apparently protected, were seized with the disease, of which some of them died.

3. That inoculation of the small pox, though in general conferring on the person subjected to this process, immunity from the effects of variolous contagion in after life, does not necessarily or infallibly guaranty him against the disease, nor prevent death when it has made its invasion.

4. That vaccination cannot now, any more than on its first introduction, be received as a certain preventive to the effects of the variolous poison, though now, as formerly, it must be considered as the best and safest with which we are acquainted.

5. That occasionally under all circumstances of exposure, but more especially during the epidemic prevalence of small pox, its contagion will affect the inoculated and the vaccinated, and pro-

duce in them a fever and eruption, differing in no essential feature from the primary variolous disease, except in the general mildness and speedier subsidence of the cutaneous disorder, and the more common exemption from secondary fever.

6. That, of the inoculated and the vaccinated exposed to the variolous poison, the former will more probably escape its influence than the latter; but, if both be affected by this contagion, the chances of recovery are in favour of the vaccinated.

7. That the protecting power of the vaccine virus on persons who have been duly subjected to its influence, is not diminished or destroyed by the length of time from its first introduction into the bodies of such persons; and that no proportion whatever exists between its efficacy, and the recency or remoteness of the epoch, when the constitution was placed under the influence of this virus.

8. That there is no reason for believing in the deterioration or alteration of the vaccine virus, which is used at this time, from that which was in use during the first years of the practice of vaccination.

Cases of Nervous Irritation, exhibiting the efficacy of cold as a remedy. By S. JACKSON.

THE close alliance and mutual dependance that has been established between the different branches of the medical science, is the peculiar feature of the physiological medicine of the present day. No one of them is regarded as independent, as possessing principles and doctrines exclusively its own, and as capable of being cultivated separately, with success. Anatomy, physiology, pathology, and therapeutics, constitute, in fact, a single department, of which they are the subdivisions. They have a correlative affinity so intimate, that a knowledge of the one is indispensable to understand the others. The attempt to advance them singly, has been productive of confusion and error, which must be perpetuated by a persistance in this course. A general harmony must, therefore, prevail in the principles of the different branches of medical science. A principle, for instance, that is established in physiology, cannot conflict with a principle or a fact in patholo-

gy, or therapeutics; and, whatever is true in one of these, must, in the others, be found to possess an application. If the reverse of this prevails, it is an evidence of error; the principle is false, the fact misunderstood, or the application made of them is incorrect.

Medicine, under the influence of this doctrine, acquires a truly philosophical character; is assimilated to the demonstrative and natural sciences, in which a few principles, explain a great variety of phenomena. In like manner, the physiological doctrine of medicine, reduces the immense number of diseases, to which the animal organism is apparently subject, to two, or, at most, three general classes. They may be referred to excess or deficiency of organic action; and, probably, a limited number, to a specific mode of action, but attended always by the one or the other of the preceding states, and which regulates the treatment. Two-thirds of our diseases are of the first class, and the diversity of phenomena that characterize them, result merely from the intensity, the degree of the irritation, the structure and function of tissue in which it is seated, the greater or less activity of the sympathies, the temperament and constitution of the individual.

This communication is not intended to be a dissertation, but a detail of some cases, illustrating, it appears to me, the doctrines of the physiological school of medicine, of which Broussais has so just a title to be considered its illustrious founder and able advocate.

If any diseases may be considered as distinct from all others, with respect to their essential character, they are cramps, convulsions, &c. vaguely classed, in the common nosological systems, with the designation of neuroses. On the principles of the physiological medicine, they are diseases of irritation, of the same general character as other diseases of irritation, and receive their peculiar character, or the phenomena they present, solely from their location in the nervous system. Their treatment is to be directed on the same principles as other diseases of sur-irritation, that is, by direct debilitants addressed to the primary seat of the irritation, or by revulsives.

The irritation that occasions nervous phenomena, may be entirely confined to the nervous fibrils of an organ, in which it commences, and from which it is transmitted to the brain, and thence reflected into the voluntary muscles and other tissues; or, it may

be complicated with sanguine vascular irritation of the same organ. These circumstances impart a difference to the phenomena attendant on it, and the method of treatment. In the first case, it commonly yields without difficulty to the diffusible stimuli, to narcotics, antispasmodics, and revulsion practised on the exterior. In the last, those remedies are of less assured efficacy, not unfrequently fail entirely to subdue the affection, and sometimes aggravate it. The agents that debilitate the organic actions, that allay irritation, applied directly to the organ where it is seated, in conjunction with revulsives, are the means indicated; and, simple as they may seem, are attended with most prompt and decidedly beneficial effects. The following cases belong to this last class, and are well marked examples of the morbid condition I have alluded to, as well as of the treatment I consider most appropriate to it.

Case 1st. July 23, 1825.—The heat had been excessive for several days; thermometer ranging from 90° to 98°, F. I was called to a man supposed to be suffering from having drunk cold water. The subject was about thirty-five years of age, fair complexion, stout built, and nervoso-sanguine temperament. He was an Irishman by birth, and a weaver by profession. He had worked steadily, during the day, at his loom, in a confined and very warm room, had been very thirsty, and drunk largely of spirits and water, but not sufficient to intoxicate him. In the evening, he walked out, after eating heartily, and, on his return, was suddenly seized with giddiness, and inability to stand. He was carried home, and, from a supposition that his disorder had been induced by cold water, spirits and laudanum were given to him. The symptoms were immediately aggravated, and in a few moments after, were followed by violent spasmodic and convulsive efforts.

In this state I saw him. It was with difficulty four or five athletic men could retain him on a bed. The face was flushed, distorted with an expression of anguish; the eyes fiery. The convulsive throes came on in paroxysms, which lasted five to six minutes, and with short intervals; in the intervals, jactitation, tossing of the arms, cries of anguish; pulse was frequent, full, and oppressed; skin hot; profuse sweat covered the face and neck; epigastrium exceedingly sensitive, pressure on it raised loud com-

plaints, and renewed the convulsive exertions; thirst intense. Consciousness was perfect, but the mind, concentrated on the sufferings experienced, could not be brought to attend to any inquiries addressed to the patient.

The diagnosis formed of the case was—vascular and nervous irritation of the stomach; the predisposition to gastric irritation, derived from the extreme heat; the irritation itself excited by the use of ardent spirits during the day, and meal in the evening, suddenly aggravated by the spirits and laudanum, administered as remedies; excitement of the general vascular system, and irritation of the portion of the cerebral structure presiding over the voluntary movements, transmitted sympathetical from the stomach.

The treatment was directed by this view. A tub of cold water from a well-pump was ordered, and a vein opened. While the blood was flowing, a stream of cold water was directed to the head, and cold water given in small draughts. At the commencement of the treatment, a convulsive paroxysm came on; it soon ceased, and proved to be the last—℥xx blood, subdued the vascular excitement. The cold drinks and affusion were in the highest degree grateful, and called forth, from the patient, the most extravagant expressions of the relief they afforded him. He now informed me, that the head and stomach were the seats of the anguish he experienced, and, that although he had been conscious of what he was doing, he could not control or restrain the violence of his muscular exertions.

Cloths dipped in cold water were applied to the epigastrium; iced gum water acidulated with lemon juice was directed to be given during the night; and a domestic clyster to open the bowels.

July 24. No return of convulsion; violent pain in stomach and bowels, attended with copious discharge of blood; pulse full and tense; v. s. ℥xii. injection of cold water; sal rochelle, ℥i. dissolved in a pint of water, wine glass full every hour; continue gum water.

July 25. Pain removed; discharge of blood per anum ceased after the first injection of cold water; skin soft and cool; pulse natural; tongue furred; continue gum water.

July 26. Convalescent.

Case 2nd. January 3, 1826.—Called to see a man in the employ of a livery stable keeper, as an hostler; age, twenty-five; fair

complexion, light hair and eyes; slight figure; a Swiss by birth; sanguine nervous temperament.

In the evening, immediately after having eaten supper, he had been seized with great distress, attended with violent convulsive efforts. I found him on the floor, struggling with several persons, who held him down. He uttered cries of anguish, seemed in great torture, was perfectly conscious, but could not express his feelings. When interrogated, he pointed to his stomach, as the seat of pain; the tongue scarlet red on the edges, and furred; the skin was cool, and pulse feeble. I was informed by his employer, an Irishman, that he had been very thirsty for several days, and had drunk large quantities of cold water, to which he attributed the present condition of the patient; and was very pressing with him to drink some whiskey, but which was rejected with an expression of horror. I also learnt, he had dined that day on salt pork and cabbage.

From these circumstances, it was concluded that the patient had laboured for several days under vascular sur-irritation of the stomach, evidenced by the extreme thirst he experienced, and which, increased by the indigestible meals he had taken that day, became complicated with nervous irritation, to which he was disposed by his temperament. The heart and arterial system had not yet become disturbed.

Two indications presented themselves; the first, to remove the indigestible contents of the stomach, the cause of the present mischief; the second, to reduce the sur-irritation of the stomach, and consequently its sensibility, when the stomach would cease to feel morbidly the irritation of its contents, and would resume its functions.

The first might be answered by emetics; but the strong irritation of the emetic might render the existing irritation of the stomach permanent; might produce continued fever. It was not a safe practice. The last, if it could be accomplished, was the most direct, and, at the same time, safest plan of proceeding. It was preferred. To a pitcher of cold pump water was added four ounces of sugar, and the patient was directed to drink of it, in small quantities, every few minutes. It was swallowed with the greatest avidity, and, had he been permitted, would have gorged himself with it immediately. Relief was almost instantaneous

after the first draughts. The convulsive efforts ceased; the patient sat up, and could describe his sensations; he felt as if fire was in his stomach. A pediluvium was ordered, with warm fomentations to the abdomen, frictions to the extremities, and an injection into the rectum. On my return in half an hour, all the accidents were dissipated; the patient was sitting up, and in comparative ease. He had finished his pitcher of drink, and had commenced upon another. Vascular excitement had come on; ℥x. blood were drawn; the cold drink continued. Next morning, the patient was attending to his duties, and a regimen for a few days entirely restored the stomach to a healthy condition.

Case 3d. January 21, 1826.—A young gentleman, being engaged in a frolic, drank a pint of undiluted gin, in the course of ten minutes, about eight o'clock, P. M. The usual effects were experienced. He began to complain, after ten o'clock, of great distress about the stomach and head; and, about eleven o'clock, the agitation amounted to violent convulsive efforts of the muscular system, and cries for relief. Warm water was given to him; he vomited freely; no abatement of symptoms; laudanum and ether were administered to allay the convulsive spasms; increase of distress, and aggravation of convulsive throes, were produced. At one o'clock, I was requested to see him. I found him struggling with great violence, and held on the floor by several assistants. The face was flushed; eyes injected and fiery; pupils dilated; expression of anguish on the countenance; no appearance of coma or stupor; evident consciousness; skin hot; pulse large, full, and labouring. He had not conversed since eleven o'clock, but uttered cries of distress and pain; he was apparently in great torture.

Regarding the symptoms as depending on gastric, vascular, and nervous irritation, I gave him a tumbler of cold sweetened water. He drank it with avidity, and with an immediate abatement of the accidents; it was followed by a second, in a few minutes, and soon after he addressed me by name, entreating for relief. The cerebral irritation being still very strong, and the convulsive paroxysms returning, cold affusions were employed to the head, and a third glass of cold sugared water was given. Perfect calm of the muscular commotions was induced, and the patient could converse in a tolerably composed manner. He described his stomach as

feeling contracted to the size of a nutmeg; and complaining of his head, and the general vascular system being in a state of high excitement, a vein was opened, and ℥xv. blood drawn. He was directed to be taken to bed, but the attempt to carry him up stairs renewed the convulsive paroxysm. A second affusion to the head, and another tumbler of water, restored him to tranquillity, and he now walked up stairs, with the aid of an assistant, to his chamber. The cold drink was continued through the night, which passed without a renewal of the convulsions. The time I was occupied with him, was twenty minutes.

In the preceding cases, the convulsive disturbance of the muscular system, originated from the gastric nervous irritation, which was superadded to vascular irritation, both excited by the same irritants. The irritation was transmitted to the cerebral centre of the sensations and volitions, whence was produced the convulsive, irregular contractions of the voluntary muscles, under its influence. The sensibility of the nervous fibrils of the stomach, the point whence the irritation irradiated to the brain, depended on the nervous temperament of the individuals; that is, to the greater development and preponderance of their nervous system. The following case, in which a different temperament prevailed, and a different train of phenomena resulted from the same causes, contrasts very strongly with the preceding, and tends to confirm the principles that have been laid down.

Dennis Willey, an Irishman by birth, was employed as a labourer in a brick yard, in the extreme heat of July, 1825, the thermometer ranging in the shade from 90° to 98°, F. He is of short stature, has small head, low forehead, black hair and eyebrows, dark eyes and complexion, thick neck, large broad chest, strong and well marked muscles; temperament sanguine.

He had persisted through the day, at his work, unsheltered from the sun, from the 17th to the 19th, drinking whiskey and water to keep up his strength, though the other hands abandoned daily their labour, from noon until three o'clock. On the 19th, between one and two, Dennis was compelled to break off, and with difficulty could reach his home, a short distance from the kiln. He experienced nausea, had retchings, violent headach, and intense distress. In this state I saw him a little after two o'clock. He was rolling on the floor; the face of a deep red, with dark frown

on the brow; skin dry and burning; the pulse larger and fuller than any I had before felt; the heart pulsated forcibly against the ribs; epigastrium tender, and pressure on it increased his distress; not the slightest convulsive movement; ʒxxx. of blood were drawn; cold ablutions directed to the head and body, and small draughts of cold water; as the temperature diminished, affusions of cold water, first to the head, and then over the whole body, were practised. In fifteen minutes, complete relief of the accidents was obtained. The next day, the patient returned to his work, but with more caution.

In the above case, nervous irritation was not awakened in the stomach, and, consequently, was not transmitted to the brain. The subject, from the little development of the nervous system, of which his physiognomy and whole corporal facies gave the strongest indication, possessed but a moderate share of sensibility, and was not disposed to nervous irritation. In him, the vascular was the predominant system, and experienced the full force of the irritation to which he was exposed.

My friend, Dr. La Roche, has promised to close this communication, with the relation of a case of a similar character to the three first I have detailed, which occurred in his own practice, and which corroborates, both, the views that have been given, and the treatment pursued.

Mrs. F——, about thirty years of age, of a sanguine and nervous temperament, was attacked about four years ago, whilst residing in the State of Alabama, with a violent pain in the epigastric region, attended with vomiting. It occurred soon after dinner, and was probably caused by something she had eaten. No physician being at hand, her husband gave her teaspoonful doses of laudanum and chamomile tea, which, however, were ejected from the stomach with considerable efforts, and an aggravation of the symptoms. The gastric irritation and pain soon became so violent, as to occasion severe convulsive movements in almost every muscle of her body, and to deprive her of her senses for more than six hours. From this very severe attack she, however, recovered, more by chance and through the efforts of her good constitution, than from the effects of medicine. Since that period, she has continued subject to this complaint. The attacks are

more or less severe, are brought on by the slightest irregularities in regimen, and are in general with difficulty removed.

At two o'clock on the morning of the twenty-third of April last, she was once more attacked with this painful complaint, and suffered severely until eight o'clock, when I was requested to visit her. I learned from her friends, that she had been slightly indisposed for a few days, and had eaten the preceding evening a small portion of lobster. This, together with the greater part of what she had eaten during the day, had been ejected from the stomach a short time previous to my visit. I also was informed that she had taken twenty drops of laudanum, warm teas, and that warm flannels had been applied to the region of the stomach. Her pain was now hardly to be endured; the muscles of her upper extremities, as well as of her neck and face, were spasmodically contracted; her skin was covered with cold perspiration, and her pulse, in the short intervals of the convulsions, was found to be greatly accelerated. Judging, from the severity of these symptoms, that no time was to be lost, and influenced by former prejudices, I immediately directed forty drops of laudanum to be administered in combination with a little of the essence of peppermint, (Mrs. F. never taking laudanum without it,) and a perseverance in the warm tea, &c. A short time after the exhibition of the laudanum, the pain was aggravated, but soon was a little relieved, in consequence of vomiting supervening. Another dose was soon administered, which again occasioned an increase of the symptoms, and brought on vomiting, by which the stomach was completely cleared. A mustard poultice was ordered to be applied to the epigastric region; but, as it required some time to be prepared, I judged it adviseable to resort, in the mean time, to something, to lessen, if possible, the sufferings of the patient. As laudanum and other remedies usually applied in such cases, instead of abating seemed to aggravate the pain, I determined to give a trial to cold water, as prescribed in nearly similar cases by my friend, Dr. Jackson, of this city. A tumblerful of very cold spring water was in consequence procured, one-half of which the patient was requested to take immediately. In less than three minutes, some relief was obtained. An equal quantity of the water was given with a still greater, and, indeed, a remarkable mitigation of the pain.

The poultice was now applied, and was about ten minutes before producing an inflammation in the skin. During the time, however, Mrs. F. had drunk a second tumbler of the water, had slept a few minutes, remained free from spasms in the muscles, and felt completely relieved from the pain. The poultice was taken off about fifteen minutes after its application, and the patient directed to drink frequently through the day of water sweetened with orange flower sirop. In the afternoon, she experienced some slight spasmodic pains in the stomach, in consequence of eating thin sago, but found relief in a draught of her water. The tongue, however, remained red and somewhat parched; the pulse was quick; skin a little hot; the head painful, and the thirst considerable. The water was directed to be continued, and an emollient injection ordered, in order to relieve a sense of weight and uneasiness in the bowels. The next day, I was very happy to find that all signs of gastric irritation had subsided. The bowels being costive, and the tongue a little foul, but pale, a dose of epsom salts and calcined magnesia was prescribed, and served to remove every vestige of the complaint. With the exception of the irritation caused by the mustard, Mrs. F. was immediately restored to perfect health.

As may readily be conceived, the favourable issue of this case, under this plan of treatment, was well calculated to make a powerful impression on my mind, and to lead me to the determination, to resort early to the use of cold water, in all cases of painful and spasmodic affections of the stomach, which might, henceforward, present themselves to my observation. I can hardly believe, that the relief afforded in this case can be attributed to any of the means resorted to, other than the water; since the remedies, previously administered, certainly aggravated the symptoms, and ease was afforded to the patient, before the mustard had time to occasion redness of the skin, or the slightest sensation of heat and pain. If this conclusion be admitted as correct, then the above case must be viewed as interesting in many points of view. 1st. It shows the effect of cold water in calming nervous as well as subsequent vascular irritation of the stomach. 2nd. It proves that mere nervous irritation, which is usually thought to require the use of narcotics, antispasmodics, and even diffusible stimuli, may be cured by the same remedies as inflam-

mation, namely, direct sedatives. 3d. It serves to show, also, a striking contrast between the effects of the turbulent practice, too often pursued in gastric irritation, and those of the sedative and soothing plan, recommended by the French physicians of the present day.

ARTICLE IV. *Remarks on the Pathology of Jaundice.* By G. B. WOOD, M. D.

I HAVE long entertained certain opinions relative to the pathology of jaundice, the importance of which I perhaps overrate, when I consider them worthy of being presented to the notice of the medical public. They are, however, the result of considerable observation and reflection; and, as an account of them will occupy but little space, its admission into the North American Medical and Surgical Journal may not be deemed exceptionable.

In order to be correctly understood, it is necessary that a precise meaning be attached to the terms we employ. I shall, therefore, state, in the outset, that in using the word jaundice, in this essay, I restrict its application to that form of disease, in which, with the discolouration of the skin and urine from the irregular presence of bile, is combined an unnatural whiteness or light colour of the alvine evacuations, arising from the absence of this fluid. To those instances of yellow skin and bilious urine which frequently attend hepatic inflammation, and various forms of fever, and in which the flow of bile into the intestines does not seem to be interrupted, I have at present no allusion. Depending on different causes, and requiring different modes of treatment from the disease of which I am about to speak, they have no claim to rank with it in any treatise on the subject.

So far as I have been able to learn, from the examination of numerous authors, jaundice is uniformly attributed to some obstruction to the discharge of the bile, seated either in the excretory ducts, or in the substance of the liver. Thus, among the causes usually enumerated, are biliary calculi; stricture from spasm, or inflammation, or the pressure of neighbouring organs, in an enlarged and indurated state; inspissated bile or mucus; and scirrhous induration or calculous depositions in the liver itself, preventing the escape of the bile from the cells into which it is

secreted. It is certain that most of these causes occasionally give rise to jaundice; but I suspect that in the great majority of cases, the disease is wholly independent of any obstruction, either in the liver or its ducts. To this conclusion I have been led by the following, among other considerations.

Supposing the bile to be prevented, by some impediment in its ordinary passages, from escaping into the intestines, while its secretion continues to go on as in health, it will necessarily be accumulated in the gall-bladder and ducts behind the place of obstruction, and, in a short time, will produce such a degree of distention, as must not only be evident to external examination, but must also prove exceedingly painful, and ultimately, if not relieved, destroy life. It may be said that such an accumulation would be prevented by the action of the absorbents; but against this opinion we have the analogy of the urinary bladder, which is not so different in its structure from the gall-bladder, that it should be subjected to laws directly the reverse; and we know that all the consequences above stated do result from an obstruction to the passage of the urine: and, indeed, in those cases of jaundice, in which we have every reason to believe that an obstruction really does exist, the same consequences are, to a greater or less extent, uniformly experienced. In such instances, there is, during life, much fulness, with pain and tenderness in the region of the liver; and, after death, the gall-bladder is often found enormously enlarged. Now in the great majority of cases of jaundice which have fallen under my observation, the patients have complained of little or no pain in the right side, but have referred their uneasiness entirely to the stomach and bowels, in which a certain indescribably wretched sensation was experienced, more unpleasant even than pain, and accompanied with great mental depression. Neither have I been able to discover any extraordinary tenderness on pressure, or the slightest external marks of distention. The uniformly favourable termination of these cases has not allowed me an opportunity of making post-mortem examination; but we have accounts of dissections in individuals who have died while labouring under jaundice, in which no sign of disease whatever was discoverable in the liver or any of its appendages. It is said that the disease, in such instances, depends on spasm in the ducts; but this supposition is gratuitous,

and contradicted by the absence, during the life of the patient, of those symptoms which mark the existence of spasm. In other cases, dissection has exhibited the passages filled with a thick, tenacious mucus, which was, therefore, supposed to have been the cause of obstruction. But we do not find that other excretory ducts, as those of the kidneys, bladder, and salivary glands, are liable to be thus closed up by a diseased mucous secretion; and it is hardly probable, that such is really the case with the ducts of the liver. I am inclined to think, that the inspissated mucus which dissection is said to have revealed, had its origin in the inactivity of the ducts, depending on the absence of bile, their proper stimulant. Suppose the biliary secretion to have ceased; the gall-ducts, having no office to perform, become inactive; their own mucus, unable to excite them, is accumulated in their cavity, and becomes inspissated by the absorption of its watery parts: hence, what was supposed to be a cause of the disease, is, in fact, merely a consequence. In a similar manner may be answered the observation of Dr. Good, which he advances to prove, that *inspissated bile* is a frequent cause of that obstruction which gives rise to jaundice. "There are few observant practitioners," says the Doctor, "but must have remarked that the evacuations, whether by the mouth or the anus, when the obstruction is just removed, consist at all times of nearly pure bile, peculiarly tenacious and high coloured." It appears to me that, like the impacted mucus, this tenacious bile is a result, and not a cause. If the liver should all at once cease to secrete, a portion of bile would still remain in the gall-bladder, and, as this viscus very seldom entirely empties itself, would continue in the same place till the renewal of the secretory process. Exposed to the action of the absorbents, it would lose its more fluid parts, and become thick and tenacious. Upon a revival of the hepatic function, this would, in all probability, be among the first portions of bile discharged; and hence the phenomenon to which Dr. Good alludes.

From what has been said, it will have been perceived that I am inclined to the opinion, that jaundice, in most cases, depends upon a deficient or altogether suspended *secretion* of bile, not upon any obstacle thrown in the way of its *excretion*. But if this is really the case, how shall we account for that wide dispersion of the bilious fluid, which is the most striking characteristic of the disease?

One object of the liver is undoubtedly to eliminate from the blood some principle or principles, which, if allowed to remain in the circulating mass, would prove deleterious to the system. By a happy provision of nature, when the hepatic vessels have been rendered incapable of performing their office, a portion of their power is transferred to other vessels, and the noxious principle is thrown out of the circulation by the skin, the cellular membrane, the kidneys, and other glands, and secreting surfaces. That such a vicarious power is one of the natural properties with which the system has been gifted for its own preservation, is a fact too well known to require extensive illustration. The hemorrhage from the lungs, the stomach, and the hemorrhoidal vessels, consequent upon a suppression of the menses, is often, I believe, as much a secretion as the menstrual discharge itself. *When perspiration is suppressed, an increase of acid in the urine is not an unfrequent occurrence; and cases are recorded, in which a urinous smell has been imparted to the perspiration by a cessation of action in the kidneys. That the office of the liver should occasionally be partially transferred to other organs, cannot, therefore, be regarded as an anomaly.

But I do not contend that in cases of jaundice it is perfect bile, identical with that elaborated by the hepatic vessels in their healthy condition, that is thrown off by the skin and kidneys. It is probably nothing more than that peculiar principle to which bile is indebted for its colour, that is thus thrown off. This principle may be to the bile, what urea is to the urine. Now we are assured by experiments of recent date, that in the blood of animals whose kidneys have been extirpated, urea exists so abundantly as to be readily discoverable by means of chemical agents. Why should not the colouring principle of bile be equally abundant in the blood, when the secretory action of the liver is suspended? Such, I believe, is really the case. *We observe it imparting its colour to the serum; and, as its redundancy must be highly injurious, we can readily imagine that every passage will be open for its escape from the system. It is probably, therefore, this constituent of bile, and not bile itself, which gives to the eyes and skin of jaundiced patients their peculiar hue.

* It is well known that acid matter is contained in the perspired fluid.

Whether its existence in the blood is natural and uniform, or merely occasional, dependent on the cessation of the hepatic function, is a question, which, though highly interesting in itself, has, however, no material bearing on the subject of this essay. On either supposition, the occurrence of jaundice, from the cause to which I am inclined to attribute it, may be explained with equal facility. The first, however, appears to me to be much the more reasonable. To this opinion it is no objection, that this colouring matter is a proximate principle of a secreted fluid; for we know that more than one of the essential constituents of the blood pass, without material change, through secreting vessels: nor is it an objection, that chemical tests do not give evidence of its presence in the serum; for, though the quantity may be considerable, yet, diffused through the whole circulating mass, it may be so diluted as readily to escape the imperfect means of analysis which have hitherto been employed. In favour of the opinion, we have the uniform greenish-yellow colour of the serum, which is not essentially connected with any one of the constituents which chemistry has pointed out, and is, therefore, in all probability, inherent in some distinct principle which it is reasonable to conclude is identical with that of bile. Another argument in support of the same opinion, may be drawn from the facility with which the colouring matter of the bile is absorbed, and conveyed into the circulation. We know that the absorbents have a very considerable power of assimilation, by which the various matters which they take up in different parts of the system, are converted into a fluid homogeneous in itself, and well adapted to mix with the blood, without effecting any material change in its properties or constitution. Is it probable that they would allow the colouring matter of bile to pass through them, without undergoing the assimilating process, were it not one of those proximate principles which naturally enter into the composition of the blood, and to which, therefore, they have no right to refuse admittance?

Admitting the correctness of these views, I would briefly state my theory relative to jaundice in the following words. There is a certain proximate principle in bile, upon which its colour, and, perhaps, its most important properties, depend. This principle exists also in the blood as one of its natural constituents, being generated by the same powers by which the other ingre-

dients of this fluid are elaborated. Having a tendency to accumulation, and in this state being injurious to health, it is constantly thrown off by the hepatic apparatus, which has been provided for this, among other purposes in the economy of our system. But from various causes, the secretory action of the liver is greatly diminished or altogether suppressed. As a necessary consequence, the colouring matter becomes redundant; and as dangerous effects might follow if its redundancy should be allowed to remain and increase, nature has provided other avenues through which it may be expelled. It is, therefore, thrown out of the circulation into the bladder, upon the skin, cellular membrane, and elsewhere; and thus the symptoms of jaundice are produced.

I will here, however, repeat what I have before observed, that this theory is not exclusive. Numerous cases of jaundice undoubtedly occur, which arise altogether from obstruction to the flow of the secreted bile. These are far more dangerous than the other form of the disease, and having not unfrequently terminated in death, have given strength, by the evidence yielded on dissection, to the prevailing doctrine on the subject of this complaint.

To the causes and treatment of jaundice, I shall refer only so far as they may tend to illustrate the pathological views above detailed.

Considering the intimate connexion, by sympathy, between the skin, the stomach, and the liver, we can find no difficulty in admitting, that by numerous impressions on the two former organs, the functions of the last may be so far suspended as to give rise to the disease. The depressing emotions of the mind have long been ranked among the causes of jaundice; and instances are even mentioned, in which an attack has almost immediately succeeded a paroxysm of intense mental agony. It has usually been supposed, that the proximate cause, in such cases, is a spasmodic contraction of the gall-duct; but a more reasonable explanation can, I think, be given in accordance with the views I have advanced, the correctness of which may, perhaps, derive some confirmation from this circumstance. It is well known that grief, anxiety, and other analogous mental emotions, have a direct influence on the hepatic organs, the energies of which they have a tendency to debilitate, and, if indulged to excess, may for a time altogether paralyze. A sudden access of violent passion may,

therefore, produce as sudden a suspension of the hepatic secretion, and jaundice may thus be speedily developed.

But it is upon its applicability to practice, that the claims of this theory must principally rest; and if it should be found to afford an easy and natural explanation of the operation of those remedies which experience has proved to be useful, and thus enable us to prescribe more upon principle, and less empirically than we have usually done in this complaint, a great point in its favour will have been established. I shall give a slight sketch of the prominent remedies, and it will be seen how far they are compatible with that pathology which attributes jaundice to a partial or entire suspension of the secretory function of the liver.

Emetics are often administered with great advantage. The shock they produce upon the stomach, sympathetically rouses the vessels of the liver to action; and the same effect is also, in some measure, experienced from the violent mechanical concussion to which the latter viscus is subjected. A flow of bile is one of the most common consequences of the operation of an emetic, even in a healthy state of the hepatic function; and in jaundice, much relief is, in frequent instances, almost immediately obtained.

Brisk cathartics probably act upon the same principle. Their powerful impression on the mucous membrane of the bowels is extended by sympathy to the liver; and the secretory vessels of both organs are excited to increased action. But our principal reliance should not be placed on these remedies. They are useful, in the commencement, both by the effect already alluded to, and by cleansing the alimentary canal of irritating matters; and they may occasionally be resorted to in the course of the treatment, when the disease resists more lenient measures. Their too frequent administration, beside the injurious effects it produces on the stomach and bowels, and through them, on the system at large, may tend, by the over-excitement and consequent collapse of the liver itself, to render still more obstinate the disease it is designed to alleviate.

I am in the habit of trusting the cure of jaundice very much to an alterative course of mercury, combined with gentle cathartics. A grain or two of calomel in the evening, and a moderate dose of epsom salts in the morning, continued many days successively, will often be found to have more influence, by gently soliciting

the liver to action, than the scourging of more violent remedies, to which it is, perhaps, too often subjected. There is nothing new in the practice: but I have probably been induced, by my views of the nature of the disease, to place more reliance in its efficacy, and therefore to use it more systematically than most of my brother practitioners.

Many other remedies are used in jaundice, and most of them with occasional advantage. Among these, soap and the alkalis, in large and frequent doses, have obtained so high a reputation as to be considered, by some physicians, almost in the light of specifics. Their mode of operating may be readily explained. Entering the circulation, they reach the vessels of the liver, and stimulate these to increased secretion, precisely as they stimulate the vessels of the kidneys, and augment the discharge of urine. The notion that they dissolve the obstructing matters in the gall-ducts, and thus open a passage for the bile, is, I think, unworthy of the present improved condition of medical knowledge.

Electricity, made to pass through the liver, has sometimes been employed in the cure of jaundice, and for a very obvious reason, with highly beneficial effects. The vegetable and mineral tonics are occasionally useful, by giving vigour immediately to the debilitated stomach, and secondarily to the liver. In domestic practice, various bitter teas, such as those of centaury and the wild cherry bark, are possessed of no little reputation; and I think I have seen them given with advantage, after the stomach has been properly prepared for their reception. But this class of medicines is best adapted to that stage of the complaint, in which, after the restoration of the biliary secretion, the enfeebled powers of digestion call for support. The necessity for calming the stomach, and preventing, as much as possible, its injurious reaction on the hepatic system, renders an attention to diet of high importance. Light and easily digested food is obviously indicated.

But my object is not to present a complete view of the treatment of the disease. An account of the various remedies may be found in any of the practical systems of medicine. They differ according to the peculiarities of cases; and in such as obviously depend upon obstruction, must evidently be adapted to the nature of the obstructing cause.

I will make only one other practical remark. The vessels of

the liver may cease to perform their office, not only from torpor or debility, but also in consequence of constriction, resulting from too great excitement; and the symptoms of jaundice will equally result in either case: but in the latter, the symptoms will approach nearer to those which mark the cases of obstruction. There will be pain and a sense of fulness in the side, with tenderness on pressure, and more or less of febrile action. It is evident that, under such circumstances, general and local depletion, and those other measures which are calculated to diminish excitement, should, in the course of the treatment, precede the use of the ordinary remedies.

To those who may have read this paper, it will, perhaps, appear somewhat singular, should I state that I am no friend to hypothesis. Doctrines, first adopted from their apparent beauty or ingenuity, and then applied to the explanation of phenomena, are undoubtedly injurious in their influence, as they lead us to bend and distort facts in order to adapt them to our opinions. If to such doctrines the meaning of the term hypothesis be exclusively confined, I can truly say, "hypotheses non fingo." But it is desirable, that in the practice of medicine, we should reduce our scattered facts into order, and endeavour to establish certain fixed principles to guide us. It appeared to me that the ordinary opinions on the pathology of jaundice were defective, as they did not satisfactorily account for either the phenomena of the disease, or the effects of the remedies. It was natural to look about for some other mode of explanation, and having found one more satisfactory to my own mind, I may be excused for the desire of making it known to the profession. The same thoughts may have occurred to others, and have been deemed unworthy of their own or the public attention; and it is possible that similar opinions may have been recorded in some of the innumerable medical works which have been presented to the world. But I have neither heard them in conversation, nor seen them on record; and, perhaps, it will be thought that the profession would not have suffered, had the author of this paper allowed his theory either to have died in its conception, or at least to have retained its existence only in his own breast.

ARTICLE V. *Account of a case, in which a new and peculiar operation for artificial anus was performed, in* 1809, *by* PHILIP SYNG PHYSICK, M. D., Professor of Surgery in the University of Pennsylvania, &c. Drawn up for publication by B. H. COATES, M. D.

THE performance and success of this operation, in the case we are now about to recite, are well known to American physicians, through the medium of the public lectures on surgery; but, as inventions of this kind are generally matters of record, and are the property, not merely of a particular nation, but of the world at large, it is proper to comply with the custom of mankind, by publishing an authentic account of them.

The numerous engagements of an active life, and the consciousness that a knowledge of the fact was widely disseminated by the means above alluded to, have prevented the author of this operation from committing it to print. It has, however, been uniformly taught, every winter between the years 1309 and 1821, by Dr. PHYSICK, in his lectures on surgery, to classes of from three to four hundred students; and it is generally understood to be described in all the various courses on this art which are delivered within the United States. Still, however, it was desirable that there should be somewhere preserved an historical account of it; and, accordingly, we find one in the manuscript case-book of the Pennsylvania Hospital, in which this article was inscribed by Dr. HUTCHINSON, late of this city, then a resident pupil in that institution. From this, aided by some other notes which are in our hands, and which possess the highest authority, we have compiled the following statement. We omit many details, though we retain, perhaps, more than are absolutely necessary; the operation having had ascribed to it, in foreign countries, more importance than was originally attached to it by its inventor.

John Exilius, a Swedish sailor, aged nineteen years, was admitted into the Pennsylvania Hospital on the morning of the 20th of October, 1808, affected with a congenital hernia. He stated that he had passed the last fourteen days without having had a stool, and that, on the 19th, he had been affected with stercoraceous vomitings. These were renewed after his admission.

After several other means had been employed to produce a reduction of the hernia, the operation was proceeded to, at half

past three o'clock the same afternoon, by the late professor WISTAR, in the presence of Dr. PHYSICK.

The sac being opened, the intestines were found firmly adherent to the testicle, and partially so, but with equal firmness, to the abdominal ring; so as to account for the impossibility of effecting a reduction by the taxis. They appeared to be a part of the ileum. A perforation existed in the side of one of them, of sufficient magnitude to permit the discharge of a considerable amount of fæces. There were, however, no marks of mortification found; and the opening appeared to be the product of mere ulceration.

After the removal of the stricture, and the application of a dressing, a dose of laudanum was administered, and the patient was returned to his bed.

Much enlargement of the abdomen continued, accompanied with great general restlessness; and but a small quantity of the fæces was discharged from the wound, though various means were employed to procure their expulsion. On the 22nd and 23d, stercoraceous vomiting returned; and it was not till the 23d that much relief was obtained. This was the result of a copious discharge, produced by the injection into the bowel of an infusion of senna. On the 24th, Dr. WISTAR divided a small portion of the tendon of the transversalis abdominis, as well as of the neck of the sac; from which ensued much greater facility for the escape of the fæces.

On the 30th of October, the patient, by the regulations of the hospital, came under the care of Dr. PHYSICK.

On the 24th of December, the projecting portion of intestine was cut off close to the ring. This was done under the expectation that the open orifices thus left in the intestine would gradually be retracted within the abdomen. On applying a ligature to a divided mesenteric artery, severe pain was produced in that cavity, which was relieved by rhubarb, laudanum, and anise seed. After waiting some time, and finding that the retraction did not take place, as hoped for, another process was resorted to. A roll of waxed linen, such as is used in making bougies, and of the size of the fore-finger, was bent double, and each end introduced into one of the orifices of the intestine. The dresser then pressed the angular part of this tent backwards, in such a manner as to approximate the adherent intestine to a straight position. So

much pain, of a kind similar to colic, was produced by this pressure, that the plan was necessarily abandoned. The two ends of the intestine were found, by a careful examination, to adhere to each other for some distance; and the form, thus presented, has been compared, in this case, to that of a double barrelled gun.

The next method proposed by Dr. PHYSICK, was to cut a lateral opening through the sides of the intestine, where they were adherent. But, not knowing the extent of the adhesion inwards, he thought it necessary to adopt some preliminary measure for ensuring its existence to such a depth as might admit of the contemplated lateral opening, without penetrating the cavity of the peritoneum. By introducing his finger into the intestine through one orifice, and his thumb through the other, he was enabled to satisfy himself that nothing intervened between them, but the sides of the bowel. He was thus enabled, without risk, to pass a needle armed with a ligature from one portion of the intestine into the other, through the sides which were in contact, about an inch within the orifices; which ligature was then secured with a slip-knot.

This operation was performed on the 28th of January, 1809. The ligature was merely drawn sufficiently tight to ensure the contact of those parts of the peritoneal tunic which were within the noose. When drawn tighter, it produced so much pain in the upper part of the abdomen, of a kind resembling colic, that it became necessary immediately to loosen it. The ligature, in this situation, gradually made its way by ulceration through the parts which it embraced, and thus loosened itself. It was, at several periods, again drawn to its original tightness.

After about three weeks had elapsed, concluding that the required union between the two folds of peritoneum was sufficiently ensured, Dr. PHYSICK divided with a bistoury all the parts which now remained included within the noose of the ligature. No unfavourable symptom occurred in consequence.

On the 28th of February, the patient complained of an uneasy sensation in the lower part of the abdomen; and, on the 1st of March, he extracted with his own fingers some portions of hardened fæces from his rectum. On the 2nd of March, two or three evacuations were produced in this manner. On the 3d, an enema, consisting of a solution of common salt was directed to be given

twice every day. The first of these occasioned a natural stool, about two hours after its administration. The same effect was produced on the 4th, 5th, and 6th; and the discharges from the orifice in the groin now became inconsiderable. Adhesive plasters, aided by compresses, were employed, not only to prevent the discharge of fæces from the artificial opening, but with the additional object of procuring the adhesion of its sides. This last effort was unsuccessful.

On the 24th of June, an attempt was made to unite them by the twisted suture. Pins were left in for three days, and adhesion was, in fact, effected; but, owing to the induration of the adjacent parts, the wound again opened.

On the 27th of July, a truss, of the common construction, furnished with a very large pad, and surmounted by a large compress, was applied to the wound. By these means, the discharge of fæces from the groin was completely prevented, and the patient had regular evacuations per anum; except when, from improper diet or cold, he became affected with diarrhœa. At such times, a small portion of the more fluid matter escaped by the sides of the compress.

Not satisfied with this state of things, Dr. Physick made several attempts to improve the patient's condition. On the 2nd of August, a mould of the parts was taken in plaster of Paris; and, being covered with buckskin, was employed as a pad for the truss. This expedient answered extremely well, as long as the patient continued in the same posture in which the mould was made; but as soon as the form of the parts was altered by a change of position, fæces escaped from the orifice. A bandage was then applied to the body, furnished with a thick compress, and having that part of it which crossed the patient's back formed of elastic, extensible, wire springs, such as are used in suspenders. This also, however, proved ineffectual. The truss, with a compress and a large pad, stuffed in the common way, was then re-applied, and found to answer completely the purpose of preventing the discharge of fæces; the hope of an entire closure of the orifice being abandoned.

On the 10th of November, he was discharged from the hospital, in good health and spirits, and applied himself, with very good success, to acquire the profession of an engraver.

The cure of artificial anus, in the small number of cases where it has been achieved, has been produced by making firm compression on the point of junction of the two divided intestines, while, at the same time, the lower end is dilated by a tent or roll of lint. It is stated by M. MURAT, in the Dictionnaire de Medecine,* that FREDERICK SMAKALDEN *proposed*, in 1798, the division of the intermediate sides of the two bowels. No directions, however, are given, nor any account of the mode by which peritoneal inflammation was to be avoided. The above exemplified method was invented by Dr. PHYSICK, while actually attending the case; and was not suggested by any hint derived from SMAKALDEN, whose name is quite unknown to our ears, and to the catalogues of our libraries. Since then, a method, differing in some peculiarities, but apparently borrowing the principal idea from the above case, has been put in practice, and published by the celebrated M. DUPUYTREN. It was not, however, invented until after repeated trials of another method, which we shall describe; but which was far from meeting with a satisfactory course of success. The objects in view were exactly similar. After ascertaining, by the introduction of the fingers, the extent to which adhesion existed between the two portions of the intestine, M. DUPUYTREN divided, every day, a quarter of a line, (the forty-eighth part of an inch,) of the double partition, with a pair of scissors. The inflammation which was produced by this operation was considered as extending the adhesion with sufficient rapidity to admit of its daily repetition. By this means, in some instances, a sufficient opening was effected; and the patient was considered cured, notwithstanding the frequent continuance of a fistulous orifice allowing the discharge of fæces. In other cases, this operation was followed by the loss of life.

This unfortunate circumstance led M. DUPUYTREN to the invention of the instrument which he calls an *enterotome*, the object of which is to produce the same effect that Dr. PHYSICK obtained by a ligature and scissors; and which Mr. D. recommends for all cases of artificial anus. The enterotome consists of two blades of steel, four inches long, provided, on the edges directed towards the other, with a series of notches and blunt teeth. The blades are

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made to close, one of them entering into a groove formed in the other, by means of a screw situated near the hinge. One blade of this instrument is inserted into each of the two orifices; and, by means of the screw, they are so closed as to compress the sides of the intestines, and bruise them between the blunted teeth. The usual care is, of course, requisite to prevent the introduction of any other part within the grasp of the instrument. The irritation of this process produces, in succession, the adhesion of the adjacent peritoneal coats, and a *softening*, ulceration, and total destruction of the membranous partition, thus leaving a complete opening for the passage of the fæces. So far, the account of M. Murat. We have been informed, however, by various medical gentlemen who have been in Paris, that M. Dupuytren contents himself, in the use of the enterotome, with the certainty of adhesion; and, when satisfied that this has been effected, divides the adherent parts in the manner practised by Dr. Physick. We have also seen a contrivance of the former eminent surgeon, intended to replace the twisted suture, in bringing together the edges of the external wound. This consisted in two steel plates, covered with stuffed buckskin, and connected to each other by an arrangement of rods and screws, in such a manner as to press together the sides of the orifice. By these processes, combined with a proper regulation of their diet, M. Dupuytren has met with repeated success. It does not appear that his attempts have been without failure, nor that he could prevent the continuance, in numerous instances, of a fistulous opening.

From a recent treatise on the instruments of surgery, published at Paris, it appears that M. Dupuytren has since produced a new form of the enterotome, which he considers as improved. The only material change consists in preserving an entire parallelism between the blades; thus enabling them to operate on a considerable length of the intestine at the same time, instead of commencing the pressure, like a pair of scissors, near the hinge. This effect is obtained by means of transverse slides; which require an increase of three inches in the length of the blades, and, of course, greatly augment and perhaps double the weight.

With regard to the choice between these two operations, it appears to us clear, that, without our being influenced by national prejudices, there are abundant grounds for a distinct preference

of the American over the French mode of treatment. Of the compressor which we have just described, we cannot speak with knowledge and decision. It does not seem to us to be well or conveniently adapted to exert the desirable pressure on the sides of a callous opening. It seems to us difficult to apply. Indeed, the silence of M. MURAT on this subject, in November, 1824, is of itself a strong ground of presumption that it has been forgotten, or considered as a failure, at the place where it had its origin.* As to the *enterotome*, we must confess we think it a clumsy substitute for a ligature. The reader has, doubtless, observed, in perusing the preceding narrative, the extreme distress which was produced by simply drawing the ligature too tight. How then can parts like these endure being pinched and bruised to ulceration and death by a pair of notched steel blades? "But," it may be said, "this tight application and long continuance of the instrument is not necessary; it may be used merely for producing adhesion, and the parts be afterwards divided by the scissors." Yet we find M. MURAT describing the former as the process actually performed and taught by M. DUPUYTREN himself. And, besides, if we suppose the more moderate plan to be followed, which is what we should expect from so eminent a surgeon, if we prefer the verbal accounts given us by our friends to the *litera scripta* of the last named author, still we think we can see a decided superiority in the simpler method. The enterotome we saw, weighed at least four ounces. Now, with any gentleness and moderation in its application, supposing the surgeon to be entirely freed from the temptation afforded by the screw to tamper unnecessarily with the instrument, (no small danger, as practical men know,) the mere presence of such a dragging weight, fastened in a man's intestines, is of itself a very serious objection, and cannot fail to be followed by the greatest sympathetic irritation, both of the kind met with by Dr. PHYSICK, and of a more febrile character. The mischiefs produced by the introduction of hard bodies into unnatural orifices in viscera, are of too serious a description to be lightly incurred. Now, in these respects, there

* From the last edition of the "Medecine Operatoire" of Sabatier, it appears that M. DUPUYTREN has abandoned the use of this instrument. The enterotome was invented in June, 1813.—*Communicated.*

is such a decided superiority in the ligature and slip-knot, that we cannot for a moment refrain from giving a decided preference to them, and respectfully, but earnestly, recommending them to our countrymen, as superior to any other known means.

ARTICLE VI. *Observations on Asphyxia from Drowning, to which is added a case of Resuscitation.* By EDWARD JENNER COXE, M. D.

THE very great attention that has been paid to asphyxia from drowning, since the first attempts towards resuscitation, which are generally believed to have originated in Holland, and the importance attached to it, as proved by the great number of institutions established for the same purpose in almost every quarter of the world, render it a subject of the greatest interest. In this country, so abundantly supplied with water, it would naturally be supposed, that a great number of deaths from drowning would annually occur, which being the case, it becomes a duty to inquire why so few cases of resuscitation are recorded by those physicians to whom these melancholy accidents present themselves. Among the many cases of asphyxia from drowning, published in the newspapers of the different States of this Union, so uncommon is it to read of a case of resuscitation, that were a record of them presented to the public, I do not believe more than one out of twenty or thirty would be found to have had the vital spark rekindled. The length of time the body remains immersed, appears to have no influence upon the result of the exertions towards resuscitation; for in many instances, the body, when taken out of the water, has exhibited some slight appearances of life, which, however, those present were unable to restore to that natural state, thereby enabling the different organs to resume their healthy functions. I am disposed to believe that this uniform want of success depends as much upon the little attention directed to the proper remedies to be employed, as to the opinion so universally prevalent, that when an individual is drowned, the prospect of resuscitation is so small, that it is considered unnecessary to continue the proper exertions beyond a limited time, which, I venture to assert, is not

in one case out of twenty one-fourth as long as it should be. If this is really the case, and I found my belief upon the success observed in other countries, does it not become the duty of every individual to exert his utmost endeavours to overturn so erroneous an idea, which has been the cause of the loss of so many valuable lives to their country. By referring to the Annual Report of the Royal Humane Society of London, for 1812, for the recovery of drowned persons, it will be seen, that in one year, "1811," out of 153 cases of suspended animation from drowning, 133 were, by proper exertions, restored to life, and in the next year, "1812," 108 successful cases are reported out of 127. From the commencement of that society to the end of 1812, 7536 cases have come under its notice, of which number 3639 were successful. It is the opinion of that society, that this surprising success is to be attributed as well to the rewards proposed and punctually paid, as to the improvements in the means of resuscitation.

It must be evident to every one that it is impossible to determine the precise time that our exertions should be continued, as that must vary in proportion to the time the body has been immersed, and to the vis vitæ which, we all know, varies in different individuals. When we, however, consider the importance of the object, that of restoring the corporeal and mental functions to a body apparently deprived of life, no one will ever regret having toiled for two or more hours, even should his exertions prove unavailing. Fodere mentions the case of a woman who had remained a quarter of an hour under water, and was resuscitated after four hours continuance of the best remedies, by MM. Rapatel and Lelleau.*

Notwithstanding the great attention paid to the subject of water getting into the lungs, and the immense number of experiments performed to determine this point, the opinion of medical men appears to be as contradictory as though a single experiment had not been resorted to. Experiments performed by some of the ablest members of the medical profession, present in their conclusions as great a difference as does day from night. One circumstance which must exert a powerful influence over all experiments

* Fodere thinks, with Frank and Colleman, that our exertions should be continued six hours.

has in general been overlooked, or, if thought of, has not been mentioned. I mean the principle of life, which occasions in all the diseases, to which mankind is subject, such a complication of symptoms, and a correspondent difference in the action of remedies. Dr. A. FOTHERGILL, in his new inquiry into the suspension of vital action in cases of drowning and suffocation, published in 1795, comes to the following conclusions respecting this subject, founded upon the experiments of others. 1st. That when an animal is kept under water during the exertions to inspire, a small quantity of water enters the lungs. 2nd. That the lungs often appear unaltered, sometimes in a collapsed state; but if the animal is often suffered to rise to the surface of the water, so that he may inspire air, those organs appear distended. 3d. That a quantity of frothy fluid, consisting of air and mucus, with a little of the water in which the animal was drowned, may *generally* be squeezed out of the windpipe. 4th. That when water is found in the lungs, it enters during the exertions of the animal to inspire, and not after life is extinct; otherwise, after the body has lain some time immersed, we should find the lungs fully distended, which is contrary to observations, for it often happens that no water can be discovered in the lungs of drowned animals. 5th. That on opening the head, the veins appear rather distended, but without the least appearance of extravasation.

Dr. JOHN OSWALD, in his inaugural dissertation on suspended animation, published in this city, in 1802, after having performed a great number of experiments, varied in every possible manner, upon some of the inferior animals, comes to the following conclusions. That when an animal is drowned, and allowed to remain under water a short time after all signs of life have ceased, the lungs are in some cases very little collapsed, and in others about half so. That the air found in the lungs never yielded the least proportion of oxygen gas, but proved fatal, in eight minutes and ten seconds, to a kitten, forced to inspire it under a glass bell. That the lungs contain from one to three ounces of a yellowish frothy fluid, found to be water mixed with the natural mucus of those organs. That the vessels of the brain contain a quantity of extremely black blood, but no extravasation is perceived. That in consequence of respiration being cut off, the blood is deprived of its natural red colour. That animals submersed in a

high temperature die much sooner than those in a lower one, which accords with an experiment made upon the same subject by Dr. CRAWFORD, and to be found in his work upon animal heat.

But, continues Dr. OSWALD, when an animal is submersed, and taken out before life is extinct, and allowed to breathe from three to five minutes, not a drop of water is found in the lungs, and the stomach contains more or less water. When an animal is killed before putting it into the water, done by tying the trachea, the Doctor found, after the kittens had remained two minutes under water, that the lungs contained a considerable quantity of the fluid. Dr. OSWALD repeated the above experiments, making use of mercury instead of a solution of sulphate of iron, and found the results to correspond. Dr. O. injected two ounces of the solution into the lungs of two animals, one by the mouth, and the other through an incision made in the trachea. The animals laboured under great difficulty of breathing, convulsive action in the trachea, and considerable distress, but they were both almost recovered at the end of twelve hours, when they were killed, and a large portion of the fluid found in the lungs, as proved by the tests.

Dr. S. JACKSON, in his inaugural dissertation on suspended animation, published in this city in 1808, inclines to the opinion that water enters the lungs during the efforts of the animal to inspire, and thinks that the experiments of BERGER decide this contested fact.

In the thirty-sixth volume of the Dictionnaire des Sciences Medicales, article Noyés, by FODERE, I find that WEPFER, CONRAD, BECKER, SENAC, LITTRE, and PETIT, conclude, from their observations, that not a drop of water enters the lungs of drowned persons, and that the two last found the lungs distended with air.

Opposed to the above, are MORGAGNI, EVERS, LOUIS, GOODWIN, M. BERGER, DE HAEN, RÆDERER, and FODERE, who conclude, from their experiments, that water enters the lungs during the exertions of the animal to inspire.

FODERE, although of the opinion that when water does enter the lungs, it is in the efforts of inspiration, yet, from his manner of expressing himself, it is evident that it was not always the case, and the same opinion was entertained by Dr. FOTHERGILL many years previously.

EVERS and many others conclude, from their experiments, that

not a drop of water enters the lungs of those animals thrown into that fluid after their death.

In the Bulletin des Sciences Medicales, No. 3, there is a notice of the report of MM. Begin, Ribes, and Emery, upon the mémoire sur l'absorption pulmonaire, par M. Piollet.

M. Piollet always found in the lungs of those animals that he had drowned, from two to four ounces of the fluid in which they had been immersed. He also concluded, from his experiments, that when a drowned person or animal is resuscitated, that the water which had been in the lungs was removed by absorption.

In the second volume of Medical Jurisprudence, by Dr. J. A. Paris and James M. Fonblanque, Esq. art. "suffocation by drowning," is the following paragraph, which gives an accurate account of the phenomena of drowning. "If a small animal be immersed in water, contained in a transparent glass vessel, the phenomena of drowning are readily discernible; there is first a deep expiration, by which bubbles of air are expelled from the lungs; there is then an effort to inspire, but the effort is ineffectual; there being no air which can be received into the lungs, and a spasm of the muscles of the glottis seems to forbid the admission of any considerable quantity of water into the trachea. The attempts to breathe are repeated several times, and at each attempt at expiration, a small proportion of air is expelled from the mouth and nostrils, until the air cells of the lungs are almost emptied; then the animal becomes insensible, and convulsive action of the voluntary muscles mark the instant when the brain begins to suffer from the influx of the dark coloured venous blood. After the cessation of these convulsive actions, the animal becomes motionless, and gives no sign of life; but if the hand be applied to the thorax, the actions of the heart, gradually becoming fainter and fainter, indicate that some remains of vitality still linger in the system. Before the circulation of the blood altogether ceases, the muscles of respiration once more resume their actions, and ineffectual efforts are made to breathe."

Being unable to arrive at any positive conclusion on this subject, and desirous of satisfying myself, I instituted the following experiments, assisted by my friend, Dr. J. Kitchen.

The two first experiments, "tying the trachea of one cat, and drowning another," were performed with a view of observing the

appearance of the different organs, and thereby enabling us more correctly to compare them with the succeeding.

Experiment 3. A full grown cat was immersed in a strong solution of sulphate of iron; it was allowed to remain there one minute after the last gasp. The thorax was now opened, and the right cavities of the heart found, as was the case in all our experiments, very much distended, the left containing a much smaller quantity of blood; generally in one minute after the heart was exposed to the action of the atmospheric air, the right cavities, particularly the auricle, commenced contracting, which continued several hours. The lungs were moderately distended, very minutely injected on their external surface, and, when cut open, a large quantity of blood and water mixed with mucus flowed from them. This fluid was tested in a variety of ways, with the prussiate of potash, without exhibiting any sign of the presence of the solution of iron. The stomach was enormously distended with food, and contained very little fluid, which, however, being tested with the prussiate of potash, was seen to consist of the solution of sulphate of iron.

Experiment 4. A half grown cat was immersed in the same solution, where it remained two minutes, and being taken out it commenced breathing, and in one minute, the respiration being tolerably free, a cord was tied around its neck, and in two minutes all signs of life had ceased. On opening the thorax, the lungs were seen to be collapsed, and presenting on the surface a nearly natural colour. The root of the lungs being tied, they were taken out and washed in clean water; they were now cut open, and found to contain a small quantity of blood, with very little mucus. This fluid, being tested in the same manner as in the preceding experiment, did not undergo the least alteration. The stomach contained about one ounce of fluid, which the test proved to consist of the solution.

Dr. Jackson assisted Dr. Kitchen and myself in the two following experiments.

Experiment 5. A half grown cat was put in the above solution, and allowed to remain two minutes; when taken out, it gasped several times before the signs of life became extinct. The trachea was laid open, and tested with the prussiate of potash, but not the least sign of iron was exhibited. The lungs were tested, and

with the same result. The stomach contained about one ounce of fluid, which immediately changed its colour upon the addition of the test.

Experiment 6. This cat was drowned completely in five minutes. The trachea was tested; no signs of the solution present. The lungs were found collapsed, of a nearly natural colour, did not contain as much blood as in the preceding cases, and there was very little mucus; the fluid tested, but not the slightest change. The stomach as usual contained some of the solution.

Experiment 7. A kitten was drowned, and allowed to remain twenty-five minutes under water. When taken out, the trachea was exposed, and to the internal surface was applied several drops of the prussiate of potash, without producing any change. The lungs were considerably distended, and, when cut into, were found to contain a considerable quantity of blood and water, with very little mucus. The same test was added to this fluid, which had been placed upon several pieces of white paper, without the least change being produced. The fluid contained in the stomach immediately underwent a change in its colour upon the addition of the test.

Experiment 8. A half grown cat was drowned in common water; it was remarked that its struggles were not so violent as in the preceding cases, and that in less than two minutes all signs of life were extinct, whereas, in most of the others, from three to four minutes and a half elapsed before death took place. This experiment having been performed with a view to endeavour to resuscitate, by blowing into the lungs, the trachea was laid bare, and an opening made into it. A small tube was introduced into the trachea through this opening, and we commenced inflation with a syringe, but, it being too large, I was obliged to make use of my mouth; this was continued thirty minutes, and no signs of returning life appearing, the thorax was opened, and the lungs found partially collapsed, of a dull white colour externally, and, when cut open, the quantity of blood was found to be not so great as in the preceding experiments, and of a bright vermillion colour. The contractions of the ventricles, which were not seen before, at least, the left, the right having in some of the above cases contracted very faintly and for a short time, were very regular, and about ninety in a minute. The blood contained in the heart was

of a bright red colour. Although we did not succeed in restoring respiration, the effects produced were sufficiently great to induce us to believe, that with the conjunction of other means, heat, friction, &c. the result might have been different. The change in the colour of the blood in the heart and lungs sufficiently proves that the atmospheric air, when blown into the lungs of a drowned animal, exercises the same influence on the blood as when it enters in the natural way in living animals. A physician of this city informed me a short time since, that he had several times endeavoured to inflate the lungs of dead subjects in the manner just described, and could not succeed, the air passing upwards and out of the mouth and nostrils, instead of getting into the lungs. While performing the above experiment, Dr. KITCHEN and myself both remarked the very great facility of inflating the lungs through the opening of the trachea, the air passing into those organs without any exertion being necessary on our part to prevent its escape upwards. There was also no occasion of making any pressure on the thorax to expel the air which had been forced in, as it escaped through the tube in the trachea as soon as the pressure, which was made on the tube to prevent the too sudden escape of the air, was removed.

Experiment 9. A half grown cat was immersed in the same water as the preceding, and kept there three minutes and a half, when all signs of life had ceased. Before this cat was drowned, it succeeded in getting its head five or six times above the surface of the water, and making several free inspirations. An opening was made in the trachea, as in the preceding case, and air forced into the lungs by means of the syringe; during the inflation a very large quantity of water mixed with mucus escaped from the lungs through the opening in the trachea. As we could not produce as perfect an artificial respiration as in the last case, it was not thought necessary to prolong our exertions beyond eight or ten minutes, at the expiration of which time the thorax was opened, and the lungs found considerably distended, very minutely injected externally, and, when cut open, there was still a large quantity of frothy fluid and black blood. This cat having been drowned in water without any of the sulphate of iron, in solution, it was impossible to detect the presence of any water in that manner, but I do not think there can be any doubt that the water entered the

lungs during the exertions of the animal to respire. Several other experiments were performed in the same manner as the third and some of the succeeding cases, and with similar results. Observing the distention of the lungs, the quantity of fluid contained in those organs, and not being able to detect the presence of iron by the re-agent, I became dissatisfied with that manner of experimenting, and determined to drown the animals in some coloured fluid, as offering a greater chance of coming to some positive conclusion. I accordingly made a large quantity of very black ink, and mixed it with the solution of sulphate of iron. There was observed an immense number of very minute black grains in the solution, which Dr. KITCHEN and myself thought might possibly assist in enabling us to speak more positively as to the result.

Experiment 10. A half grown cat was drowned in the above solution. Although it did not once get its head to the surface, between four and five minutes elapsed before all signs of life were extinct, when it was immediately taken out. The thorax being opened, the lungs were seen enormously distended, of a very dark colour, arising from the quantity of blood in the small vessels. In several places in both lungs, particularly the lower lobes, we observed a very dark colour, which appeared to proceed from some of the ink contained within; being cut open, they were found full of the ink, and our supposition about the minute grains was realized, for on passing the scalpel over the cut surface, it was covered with them, which afforded a proof so conclusive that the most sceptical person would have been compelled to abandon his opinion to the evidence of his organs of sight and touch. The trachea was, when opened, found covered over with the same black grains; the stomach presented a black colour externally, and was full of the ink.

Experiment 11. A half grown cat was immersed in the same solution, and between six and seven minutes elapsed before respiration had entirely ceased, when it was taken out, and the thorax opened. The lungs were as much distended as possible, and with the exception of two spots presented a black appearance, caused by the ink, which escaped in great abundance when those organs were cut open. On the internal surface of the trachea were found a great number of the small grains, which were also dis-

covered in the lungs. The stomach was full of the solution. The lungs of this cat were shown to several physicians, who were perfectly convinced of the presence of the ink and the small grains in the lungs.

Experiment 12. A half grown cat was plunged into the ink, and there allowed to remain two minutes, when it was taken out; the respiration being weak, I waited until it was perfectly re-established, and then tied a cord around its neck; when dead, I opened the thorax, and found that not a drop of the ink had entered the lungs or trachea, they being in every respect of a natural colour.

Experiment 13. A cat was treated in precisely the same manner as the above, with similar results. In the stomach of each was found about two ounces of the fluid.

Experiment 14. A large cat was killed by tying a cord around its neck; three minutes after death, the cat was immersed in the ink, where it remained seven minutes. The trachea and lungs were found upon examination not to contain one drop of the fluid. The stomach was not examined.

Experiment 15. I tied the trachea of a cat, and, when dead, the ligature being removed, it was immersed in the ink, where it remained fourteen minutes. The trachea, lungs, and stomach, were examined, and not a drop of the ink found in either of them.

Experiment 16. I tied a cord around the neck of a cat, and, five minutes after death, it was immersed in the ink. To keep the mouth open, I placed a small nail between the jaws, and, in order to have the head higher than the rest of the body, pressure was made upon the lower part of the abdomen with a stick, by which means a quantity of air and mucus was forced from the lungs, and escaped by the mouth. After the cat had remained twenty minutes in the ink, it was taken out, and the lungs and stomach examined. The lungs contained a considerable quantity of the ink, and were very much engorged with blood; the stomach contained none of the fluid. As in several of the preceding experiments, one of which was performed in precisely the same manner as this, not a drop of fluid was found in the lungs, we must conclude that the pressure made upon the abdomen, and indirectly upon the lungs, thereby forcing out the air and mucus from those organs at the same time, allowed the fluid to enter

into their air cells. It is not impossible that the mouth, being kept open by the nail, might have contributed to the entrance of the fluid.

Experiment 17. A cord was tied around the neck of a cat, and five minutes after death it was immersed in the ink, where it remained twelve minutes. The lungs and stomach on examination were found not to contain one drop of the fluid. The lungs in this case were collapsed, containing very little mucus, and much less blood, than had been generally observed in the preceding experiments.

Experiment 18. Another cat was treated in precisely the same manner, and with similar results. The lungs contained much more blood and mucus than in the last case.

Experiment 19. A cord was tied around the neck of a full grown cat, and when the respiration appeared to be almost stopped, the cord was taken off; the cat, breathing irregularly and weakly, was now put into the ink, where it remained until all signs of life were extinct, which took place in a short time. On dissection, the lungs and stomach were distended with the solution.

From the above experiments the following conclusions are drawn.

1st. When an animal is immersed in any fluid, and taken out previous to the last efforts of respiration, none of the fluid will have entered the lungs, while in the stomach will be found one or two ounces.

2nd. When water is found in the lungs of an animal that has been immersed, it is absolutely necessary that the animal be under water when making its last efforts to breathe. By referring to the extract from PARIS and FONBLANQUE on Medical Jurisprudence, it will be seen, that previous to the cessation of the circulation of the blood, ineffectual efforts are made to breathe, in consequence of the muscles of respiration resuming their actions, which, in my opinion, is the precise time that the water enters the lungs.

3d. When an animal is killed, and then immersed for twelve or fourteen minutes, the lungs and stomach will not contain any of the fluid, unless, as in Experiment 17, pressure be made upon the abdomen, which by forcing out the air and mucus from the lungs, the fluid at the same time enters those organs.

Since writing the above, I tied a cord around the neck of a cat,

and, seven minutes after death, I immersed it in the same solution, where it remained four hours. On examining the lungs and stomach, not a drop of the ink was observed in either organ.

As might be supposed a priori, the best authors are found to differ very greatly in their opinions concerning the proximate cause of death in cases of drowning. The different theories on this subject being accurately mentioned by Dr. FOTHERGILL in his work before alluded to, I shall take the liberty to notice them in a cursory manner, referring those, who may desire to see them in detail, to his publication. The introduction of water into the windpipe has been considered the immediate cause of death in cases of drowning, by M. LOUIS, DE HAEN, and others; but later experiments have shown that the same quantity of water that enters the lungs in drowning may be injected into those organs without proving fatal. It has by others, among whom may be mentioned M. LITTRE, WEPFER, BOERHAAVE, CULLEN, and KITE, been attributed to a surcharge of blood in the vessels of the brain, producing a real apoplexy. The experiment of professor MONRO, "making an opening in the trachea of a dog, and suspending him by a cord placed above the opening, in which state he remained three quarters of an hour, the respiration and circulation going on naturally; the cord being placed below the opening, the dog died in a few minutes," is of itself a sufficient answer to this theory. Another proof of its incorrectness is, that in apoplexy life continues several hours, while in drowning it becomes extinct in a few minutes. Others have imagined the presence of black blood in the left side of the heart to be the proximate cause of death in drowning. As the blood in all parts of the body, in these cases, is found to be black, the proximate cause may with equal propriety be attributed to its presence in any other important organ of the body.

COLEMAN thought the proximate cause was a mechanical obstruction in the interior pulmonary vessels from collapse of the lungs, with a want of latent heat in the blood. Experiments have shown that the latent heat of the body, after death from drowning, frequently exceeds that in a state of health. Recoveries have taken place spontaneously, after a body has been taken out of the water, without any signs of life being present. The lungs are also found to contain more or less air after death from drowning.

It follows, therefore, that this theory does not stand upon a surer basis than the preceding. Others imagine the proximate cause to consist in the mere stoppage of respiration. This opinion, however, does not appear to be more correct than the preceding; for if it were the case, how can we account for the frequent recoveries of persons in a state of syncope, or apparent death from other causes.

That eminent anatomist and physiologist, BICHAT, in his *récherches physiologiques sur la vie et la mort*, concludes from his experiments that the action of black blood on the brain is the proximate cause of death in drowned persons, as well as in several other kinds of sudden death. He says, p. 283, Le sang noir est sans doute funeste au cerveau qu'il frappe d'atonie par son contact, de la même manière que les différens fluides dont je viens de parler. "By the different fluids, he alludes to ink, oil, wine, water coloured with common blue, urine, bile, &c. which he injected into the carotids, and which produced death by their action on the brain." Quelle est cette manière? je ne la rechercherai point: lá commenceroient les conjectures; elles sont toujours le tèrme où je m'arrête. Speaking of the experiment of HOOK, by which the weakened movements of the heart in those labouring under asphyxia, or in animals whose thorax had been opened, were accelerated by forcing air into the trachea, BICHAT says, p. 308, Je ne crois pas que jamais on soit venu à bout de ressusciter par ce moyen les mouvemens du cœur, une fois qu'ils sont anéantis par le contact du sang noir. That the presence of black blood in the brain, and its action on that important organ, may be the proximate cause of death, as asserted by BICHAT, is very probable; but is it not possible that he has gone rather too far, in believing that as soon as the movements of the heart have been destroyed by the contact of the black blood, all exertions to restore those movements will be unavailing.

Opposed to the belief of BICHAT on this subject, stand the numerous well authenticated instances of resuscitation, where the body had remained some time under water, as well as the case mentioned at the conclusion of this paper, the body having been under water at least five minutes, and certainly long enough to allow the black blood to exercise its full influence upon the brain and heart. Before proceeding to the consideration of the most

proper remedies to be resorted to in cases of asphyxia from drowning, it may not be amiss to mention that the popular method of rolling the body, either on the ground or over a barrel, is the surest manner of completely extinguishing the least spark of life that may chance to exist. Dr. JACKSON mentions in his thesis a case of suspended animation, which occurred near this city, in which this practice was the destruction of the individual. "It was a woman who had sunk but for a few moments, and exhibited manifest symptoms of life when taken out, but which entirely disappeared, by rolling her on the gravelly bank." Another case is mentioned by the Doctor, where the woman, being thought dead, was allowed to lie on the shore, and recovered.

When the body is taken out of the water, the first thing to be done is to remove as quickly as possible all the clothes, and then place it in some warm situation, if in the summer exposed to the rays of the sun, or in a bed well provided with blankets, and having bottles, filled with hot water or ashes, applied to all parts of the system, more especially to the extremities, where animal heat is soonest dissipated. Head and breast to be a little elevated. Several persons must now commence rubbing the body and extremities with their bare hands; and stimulating substances, as mustard or Cayenne pepper, may be employed by those rubbing, more effectually to restore the vital heat, especially on the back and posterior part of the head and side of the neck. At the same time that the frictions are unceasingly employed, it is absolutely necessary for the physician to endeavour to restore the respiration, to accomplish which several methods have been proposed and adopted.

Bellows of different kinds have been invented for the express purpose of forcing air into the lungs, but as they are not always at hand, a common pair will be found to answer every intention. The nozel of the bellows is to be placed in the mouth, with both nostrils closed, or in one of the nostrils, the other and the mouth being closed. Air is now to be gently forced into the lungs, after which pressure must be made on the thorax, in order to expel the air that had been made to enter those organs; this being repeated twenty or thirty times in a minute, artificial respiration is produced. Some prefer introducing a tube into the trachea, either through the mouth or one of the nostrils, and then apply-

ing the nozel of the bellows to one extremity of the tube, to proceed as above. When neither of the above instruments is at hand, we can force air into the lungs by applying our mouth to the mouth or one of the nostrils of the patient, and proceeding as above. Many persons are of the opinion that air, having passed through the lungs of a man, and undergone the known changes, is less adapted to re-excite the respiration of a drowned person, than common atmospheric air; but FODERE, the author of the article Noyés, in the Dictionnaire des Sciences Medicales, maintains a different opinion, and says, "et je suis persuadé que ce procédé qui est une sorte d'incubation, qui reunit les deux avantages, de la chaleur, et de l'introduction de l'air dans les poumons, est celui qui a rappelé le plus d'asphyxiés à la vie."

It sometimes happens that we cannot succeed in forcing air into the lungs by either of the above methods, and we must then resort to the operation of laryngotomy, which, in my opinion, should supersede all the plans as yet noticed. On this subject, I transcribe with great pleasure the following lines from FODERE. "La difficulté et quelquefois l'impossibilité de faire penetrer l'air par les voies ordinaires, ont fait naitre l'idee de recourir à l'incision de la trachée artère ou du larynx. HEISTER (Instit. Chir. cap. 2,) a fortement recommandé cette opération, et déja avant lui, DETHARDING avait conseillé la laryngotomie comme un moyen de rendre libre l'entrée et la sortie de l'air dans les poumons des noyés, et de les rappeler de la mort comme par miracle (de modo subveniendi submersis per laryngotomiam, Rostock, 1714.) On lit dans le mémoire de FOTHERGILL, ainsi que dans l'ancien journal de médicine (Mars 1790) quelques faits en faveur de cette pratique, &c."

Electricity and galvanism have both been highly recommended as powerful means, in conjunction with the others, to restore the vital action. The number of authorities, in support of these remedies, is so great, and their action on the system is of such a nature, that they would be entitled to great attention among the remedies employed in asphyxia, was it not known that not once in a thousand cases would they be in readiness, and the time lost in hunting after an electrical machine would be much better employed in making use of the remedies in our hands.

Instruments of different kinds have been invented, for the pur-

pose of drawing off the water from the lungs. They have generally been made in the form of bellows or syringes, and have by some been considered of great use in the general plan of treatment. It will be recollected, that in my exertions to restore the respiration in one of the drowned cats by means of a common syringe, a great quantity of the water contained in the lungs was brought away when the piston of the syringe was drawn back.

Injections of tobacco smoke have been considered by some of the most illustrious members of our profession, a very important assistant to frictions and inflation of the lungs. The Humane Society of Amsterdam for the recovery of drowned persons, mentioning in their memoirs the advantages derived from injecting air into the anus, says, "et l'opération sera plus efficace si, au lieu d'air, c'est la fumée chaude et irritante du tabac; c'est, en général, la premiére qu'il faut tenter."* From all that I have learned on the subject of tobacco injections, I do not hesitate to recommend its use as soon as possible in all cases of asphyxia from drowning. One of the easiest ways of employing it is to take a common pipe, and, filling the bowl with tobacco, light it, put a piece of paper or rag perforated with small holes over the bowl, and then pass the stem of the pipe up the rectum, and commence forcing the smoke up the intestines by applying your mouth over the perforated rag or paper, and blowing forcibly.

Venæsection has been employed as a means of resuscitation; it is, however, always injurious when resorted to before there are signs of returning life, and even then it must be used with the greatest caution, both as regards the quantity drawn, and the manner of doing it, which is best done by allowing a half ounce or an ounce to flow from the vein, then apply your fingers to the orifice until the arterial system gives manifest signs of the necessity of repeating it. I cannot, perhaps, do better than transcribe the caution of FODERE on this part of the treatment. "Attachons-nous donc à ce premier point, (re-establishing the respiration,) et après avoir bien commencé, prenons garde de mal finir en voulant *trop faire.*"

* Several physicians of eminence recommend tobacco smoke to be applied to the interior of the mouth and nostrils from time to time, and STOLL advises us to blow it into the lungs mixed with common air.

In the 117th number of the Journal Universel des Sciences Medicales, there is a notice of the experiments of Dr. Carraro, upon acupuncturation as an almost infallible means, "as the Doctor leads us to suppose," of resuscitating drowned animals. On the twentieth of April, 1825, the Doctor, in presence of several persons worthy of credit, plunged a kitten, eight days old, into cold water, where it remained until all signs of life had ceased. Being withdrawn, and in a short time again put into the water, the kitten sunk to the bottom. It was a second time withdrawn, exposed to the sun, wiped with warm cloths, and frictions employed over the abdomen. The Doctor, not finding these means to succeed in resuscitating the animal, had recourse to acupuncturation of the heart, *three quarters* of an hour after the kitten had been immersed. A needle was passed through the heart, and arrested by the dorsal vertebræ. In less than five minutes, the needle was slightly agitated, announcing the action of the heart. This movement of the needle rapidly increased, and was soon followed at first by motion of the anterior extremities, respiration next commenced, and, finally, motion of the whole body completed the return of this kitten to life. It was then carried to its mother, who warmed and nourished it, and, one month afterwards, this kitten was as sprightly as ever. Two kittens, a day and a half old, underwent the same experiment; the first one was resuscitated, carried to its mother, who laid on and suffocated it; the second, twenty days after the operation, was perfectly well.

The Doctor expresses a hope that in asphyxia in human subjects from drowning, physicians will resort to acupuncturation in preference to any other method. That the above is strictly correct I will not pretend to deny, but I regret to say that some experiments, performed by Drs. Jackson, D. T. Coxe, and myself, upon the same subject, with great care, do not allow me to place any confidence in it as a means of cure. The first experiment was upon a kitten about four weeks old. It was drowned, and as soon as all signs of life were extinct, it was placed on a table, after being wiped dry, and a needle passed through the heart. In less than one minute, the needle by its movements showed us that the heart had commenced contracting; in four minutes the heart contracted forty times in a minute, which it continued to do for four or five minutes, when they became less frequent, and, in

twelve minutes from the introduction of the needle, the contractions were only fifteen in a minute; at the end of fifteen minutes, the heart had ceased to contract. Experiment 2nd. A kitten was drowned; two minutes after it was taken out of the water, a needle was passed through the heart, and, in less than two minutes, the heart commenced contracting. As in the first experiment, the contractions became more vigorous for ten minutes, then began to decrease, and, at the end of fifteen minutes, the contractions had ceased. Dr. D. T. Coxe performed three experiments, and as I was unable to be present, he has favoured me with the following details. Experiment 1st. A kitten was drowned, taken out, rubbed perfectly dry, placed in the sun, and in half an hour a needle was inserted, as was supposed, into the heart. At the end of four minutes, a slight motion was thought to be perceptible in the needle, which was repeated two or three times. A second needle was introduced, without producing any contraction. The kitten was dissected some time after the experiment, the needles remaining in the body, when it was seen that they had not entered the heart. This, therefore, proving nothing, the Doctor proceeded to the second experiment.—A kitten four weeks old was drowned, well dried, and in eleven minutes a needle was passed through the heart. A second was a short time afterwards inserted, but neither produced the slightest contraction. Experiment 3d. Another kitten of the same age was treated in the same manner, and with precisely the same result. It was fully proved, upon dissection, that the needles had passed through the heart. Whatever others may think of the possibility of resuscitating drowned persons by acupuncturation, I can only say that I should think myself highly culpable, if, called to a case of asphyxia, I were to waste time, every moment of which is precious, in endeavouring to resuscitate by a means which I sincerely believe to be good for nothing.

While pursuing the above remedies with coolness and very great perseverance, it will be of advantage to endeavour to excite irritation on the internal surface of the nostrils, mouth, pharynx, œsophagus, and stomach, either by tickling them with the extremity of a feather, or by applying to them volatile substances, as volatile alkali or some of its preparations, oil of turpentine, ginger, Cayenne pepper, &c.; if we have a stomach tube at hand,

we may with advantage inject some of the above articles into the stomach. I cannot refrain from adding the following lines from FODERE, which are applicable to all accidents: "Mais il faut du choix dans ces moyens du secours, et de la sagacité dans leur administration; il faut sur tout se tenir en garde contre le trouble et la confusion, si ordinaires, et cependant d'un si grand danger dans ces circonstances."

In concluding this part of the subject, I have only to add, that if, after having continued our exertions for three, four, five, or even six hours, we are so fortunate as to restore a fellow being to life, it then becomes necessary to administer some nourishing and stimulating food, at short and repeated intervals; and, for this purpose, we can have nothing better than sago, tapioca, arrow-root, wine, brandy, or any other liquor mixed with hot water, after which the patient may be put to bed, and there allowed to recruit his exhausted frame by that great restorative, sleep.

Having given as correct an account of the best treatment to be pursued in asphyxia from drowning, as laid in my power, I will conclude by reporting a case that occurred to myself, when on a visit to a relation residing on the North River, in the month of August, 1820. As this case occurred before I had regularly commenced the study of medicine, (I had attended Dr. PHYSICK's lectures on anatomy the winter previous, though undetermined whether I should pursue the study,) it will, I think, be more acceptable; for if I, unacquainted with the treatment, could, by perseverance, succeed in resuscitating a drowned person, how much greater would be the chance of success to one having a perfect knowledge of what was most proper to be done. A black child, aged eighteen months, accidentally fell into a cistern containing water eight feet deep, where it remained upwards of five minutes, before we succeeded in dragging it out by means of a hook fastened to a long pole. When we had got the child out,* the first thing done was to strip off all its clothes as quickly as possible. The sun being very powerful, the child was exposed to its rays in preference to taking it into a warm room. The mother, "the only person for some time present to assist me," was ordered

* The body was cold, the stomach much swollen, and no pulsation could be felt in any part of the system.

to rub as violently as possible over the whole body, while I looked over the article "*Drowning*" in the Encyclopædia, which fortunately happened to be in the house, and from which I collected all the information which I was so suddenly called upon to put in practice. The frictions with Cayenne pepper and mustard were continued as vigorously as possible, and principally by myself, as the mother was more inclined to let things take their natural course, than exert herself as I had ordered. A bucket of boiling water was next procured, and in it I placed the child almost to the umbilicus, continuing the frictions at the same time. I now endeavoured to restore the respiration, by making one of the persons present (several had by this time arrived,) blow into one of the nostrils, while I closed the mouth and the other nostril. Not satisfied with the frictions and boiling water combined, I ordered some hot ashes from the kitchen fire, which were sprinkled over the whole body, and in several places the skin was rubbed off, but this did not prevent the renewal of the boiling water and frictions. This severe treatment may be considered unnecessary by some, but it must be recollected that I was treading upon new ground; and so important do I consider this part of the treatment, that were I called upon again, I would pursue precisely the same apparently severe remedy. Several cigars were broken up on a plate, live coals added, and the smoke held under the mouth and nostrils, and from time to time these parts were opened, and the smoke blown into them.

These four remedies, frictions, heat applied to the surface with a view to restore the excitability of the system, blowing into the lungs, and applying tobacco smoke to the inside of the mouth and nostrils, were unceasingly persevered in for one hour and a quarter before I had the satisfaction to perceive the slightest sign of returning animation; about this time, a faint guggling noise was heard in the throat, caused by an imperfect attempt to inspire. A few minutes elapsed before it was repeated, but our exertions were redoubled, and we again heard the joyful sound, which from this moment continued to increase until the child cried out, and respiration was perfectly re-established. Placing my hand upon the region of the heart, I distinguished the faint pulsations of that organ, which continued to increase, and, in a short time, I felt the

pulsation of the radial artery. The child being now able to swallow, I gave, at short intervals, a small quantity of hot wine and water, and brandy and water. Three hours after commencing my exertions to resuscitate this child, I had him put to bed, having previously given him some warm soup. He slept well that night, and was the next day as well as ever.

ANALYTICAL REVIEWS.

ARTICLE VII.—*Traité zoologique et physiologique sur les vers intestinaux de l'homme.* Par M. BREMSER, D. M. Traduit de l'Allemande par M. GRUNDLER, D. M. P. Revu et augmenté de notes par M. DE BLAINVILLE, D. M., &c. Avec un atlas. Paris, 1824.

Anatomie des ver sintestinaux, ascaride lombricoïde et échinorhynque geant. Memoire couronné par l'Academie Royale des Sciences; qui en avait mit le sujet au concours pour l'année 1818. *Avec* 8 *planches.* Par JULES CLOQUET, &c. &c. A Paris, 1824.

THE first of the above works, though unquestionably possessing the highest worth and authority, is certainly one of the most strangely got up that has ever come under our notice. The book has so many authors, that it is almost as difficult to find whom to quote as the authority for some of the facts which it contains, as to refer to their right owners the works ascribed to HIPPOCRATES or ARISTOTLE, or the labours of HERCULES. First, a treatise on worms was written, in German, by professor BREMSER; next, after one abortive attempt, it was translated into French by M. GRUNDLER; then it was revised, amended in many parts, changed in its arrangement, and augmented with an appendix, by M. DE BLAINVILLE; again, the classification of the worms was altered, with the consent of the author, so as to adapt it to the more improved system of RUDOLPHI; and, subsequently, a number of notes were communicated, for insertion, by the original author. To crown the whole, various suggestions, and a recommendatory letter, were contributed by the famous BARON HUMBOLDT. We might, perhaps, be thus justified in entitling it, according to the English and American fashion, BREMSER'S, BLAINVILLE'S, HUMBOLDT'S, RUDOLPHI'S, GRUNDLER'S—BREMSER.

With such a list of names, it certainly ought to be a profound work. It is considered by MM. HUMBOLDT and DE BLAINVILLE as one of the very first authority. Dr. BREMSER is stated by the latter to be the first *helminthologist* in the world. To enable the

reader to judge of his opportunities, it is sufficient to state, that the museum at Vienna contains the finest collection of parasitical worms in existence; *fifty thousand animals* were there opened, to search for these objects, and every worm found in them passed several times through the hands of the indefatigable author himself. In addition to this, he has had a large practice in treating persons affected with these animals. Every thing thus conspired to make the present publication the most promising source of information likely soon to occur on this interesting and curious subject.

Our learned author, with all the weight of character afforded by these advantages, the accumulation of the study and toil of many years, has, notwithstanding, emitted some opinions, the statement of which, among our countrymen, will, we are sure, produce a smile. Dr. GRUNDLER, the translator, complains, in his modest "note," of the difficulty of conveying the philosophy of the Germans, as given by M. BREMSER, in such clear language as is required, he tells us, in France. We shall have occasion to revert to this as we proceed in our analysis.

Enumeration of the worms which inhabit man.—We will first describe the worms which are admitted by our author as being found in the human *intestines*. These are five in number, and they belong to as many different genera; viz. *trichocephalus*, *oxyuris*, *ascaris*, *bothriocephalus*, and *tænia*.

The *trichocephalus dispar* of our author, and of M. RUDOLPHI, is the animal which has been called "trichiuris," "trichocephalus hominis," and "the long thread worm of Dr. BRADLEY." It is commonly from an inch and a half to two inches in length; having the anterior two-thirds of the body thin, resembling a hair, and the rest much thicker. It is either white, or coloured by the substances it has swallowed. The sexes are in different individuals. The female is smaller, and has the posterior and larger portion nearly straight. The male has the same part in a slight degree spirally twisted. The male possesses an exciting organ or penis, which protrudes from the larger extremity. The mouth is at the capillary end, which is always found adhering to the intestine. Hence etymologists will perceive the justice of substituting the name trichocephalus for that of trichiuris.

This animal is found in the large intestines; and most commonly

in the cœcum, which seems to be its natural locality. Frequently but a single individual exists there; and, in almost every instance, a very small number. M. RUDOLPHI, in one case, met with upwards of a thousand. Uncommon as specimens of this animal are in our collections, M. BREMSER finds them in almost every body he examines.

MORGAGNI has described this worm; but, like some other productions of the same mine, it was forgotten, until re-discovered by RŒDERER and WAGLER, in their famous mucous fever of Gottingen, so much quoted and alluded to by the pupils of BROUSSAIS.

The *oxyuris vermicularis* of BREMSER is the "ascaris vermicularis" of our common writers, and of RUDOLPHI himself. It is very common, in our country, to hear this species called "ascarides," the speaker forgetting that the great lumbricoid worm is also an ascaris.

It would seem, as our author very reasonably remarks, of but little use to describe so well known and familiar an animal; and yet it appears that even the larvæ of common flies, and detached joints of tænia, have been mistaken for it. It is from a line to a line and a half long, white, extremely slender, elastic, blunt at the anterior end, and with a round mouth, with the exciting organ of the male in a sheath, and, when of the female sex, increased in length to four or five lines. The four last characters distinguish it from the genus ascaris.

It is found, as is well known, in the large intestines, and particularly in the rectum of children.

The *ascaris lumbricoides* is too familiar to require us to occupy space with it. The male is smaller than the female, (but not so disproportionately so as in the last genus,) and has the end of the tail slightly curved, and frequently a double penis or exciting organ protruding from it.

Dr. BREMSER relates an incident in order to show the necessity of studying these animals. Some children had cut an ascaris open, and the intestines and oviducts protruded from the wound. These were mistaken by the attending physician for young ascarides and a small tænia; and the practitioner continued in his error, until GOEZE set him right, to his no small mortification.

The *bothriocephalus latus* is the "broad tape worm with central or umbilical orifices," and the "tænia lata" of our books. It is

thinner, and generally wider (not narrower, as some have said,) than the common tænia. It is often twenty feet long.

It is found in the small intestines of the human species, in Poland, Russia, Switzerland, and some parts of France; while the common *tænia solium* is only found in countries devoid of this animal. It is of a white colour, not, however, perfectly clear; and becomes grayish in spirits of wine. It has a large head, with two lateral grooves. RUDOLPHI considers these last as the organs for the absorption of nourishment. M. BREMSER refers this function to a mouth, which he believes to be placed in the middle of the anterior extremity, between the grooves. He does not, however, speak positively of having seen this mouth in specimens extracted from the human subject; and the figure to which he refers us for a trace of it, affords no such trace at all. In an analogous species, obtained from the pleuronectes maximus, this mouth can be seen; while in those of the shark and ray, (considered by M. CUVIER as a distinct genus, and termed *floriceps*,) there are four large, lateral suckers, with tubular cavities. It is, at best, extremely uncertain whether any of these parts be really mouths, or organs of absorption; or whether they are only *suckers*, organs of adhesion. In fact, no digestive cavity is pointed out in the tænia or bothriocephalus, with reasons justifying the least degree of confidence, any more than in the echinorhynchus, of which we have to speak, in a subsequent part of this review.

Finally, the *tænia solium* retains, in the hands of our author, its usual name. This is the "common tape worm, with lateral orifices" and long joints. It is white, with the posterior extremity or tail rounded, and with the anterior portion long and slender, terminating in an extremely thin and narrow neck, and a minute head, armed with four suckers. Between these can sometimes be discovered a minute mouth; in some instances surrounded by a circle of fine hooks, in others not visibly provided with them. The office of these hooks may be conjectured from what we have yet to say respecting an analogous organ in the echinorhynchus. The joints which separate from the larger and posterior end of this tænia, and which have been called "vermes cucurbitani," are said by our author to be, in every natural instance, charged with fecundated eggs. This he considers a natural process. Several tæniæ are not unfrequently found in the same

individual. Our author considers it "difficult to imagine" that this worm and the tænia lata or bothriocephalus can exist in one person's intestines at the same time.

M. BREMSER believes that the tænia is formed, in the first instance, entire, and that it does not grow by the addition of joints to its posterior end, as is commonly believed; although he inclines to think that new segments are divided off from the posterior part of the neck. He quotes BRERA, who describes the manner in which a fresh articulation buds and shoots out from a suture, and displaces all below it, occasioning the entire separation of the latter portion from the body of the worm. Whether the history thus given by M. BRERA be drawn from observation or conjecture, the present volume does not inform us; and the reference is made to a work of that writer, printed in German. The only work of M. BRERA which is within our reach, is the "Traité des Maladies Vermineuses," as translated into French by BARTOLI and CALVET, and published in 1804; and, in this, we have not been able to find such a description as that alluded to. Thus, in the present instance, as in many others, we are punished, by being deprived of the evidence respecting an alleged fact, because two physicians, unknown to us, have had a personal difference.

M. BREMSER remarks, with great propriety, that the fact of the head or smaller extremity of the tænia not being discovered in the fæcal discharges of any patient, is no proof that the latter is not cured; as it is extremely easy to overlook so diminutive an object in such a medium. He recommends washing away the fæces by successive affusions of tepid water; when the fragments of tænia will be found in the bottom of the receptacle. He once discovered, by this process, a portion of the most diminutive breadth, and not exceeding an inch in length, but which, nevertheless, contained the head.

Worms of other parts of the body.—In this curious department, M. BREMSER enumerates the following. *Filaria dracunculus*, the Guinea worm, on which he gives us a very interesting chapter, from which we have not space to borrow. *Hamularia subcompressa*, a thread-like worm, with two fine hooks, found by TREUTTLER in the enlarged bronchial glands of a consumptive patient. *Strongylus gigas*, a thread or cord-like worm, from five inches to three feet (French) in length, having a small bladder which contains

the penis or exciting organ, at the tail of the male, while that of the female is round. This animal inhabits the kidneys, and, it is supposed, the muscles which surround them. It is rarely found in man, but more frequently in the dog, otter, seal, horse, ox, &c. *Distoma hepaticum*, the "liver-fluke" and "fasciola hepatica" of English authors, and which the French call "douve du foie." This is a lanceolate worm, blunt at both ends, with an orifice at the smaller extremity, and another in the abdominal part. This is found in the human subject, in the rodentia, in ruminating animals, in goats, chamois, sheep, hogs, and kangaroos; always inhabiting the liver or gall-bladder. It is from one to four-twelfths of an inch in length. *Polystoma pinguicola*, a flattish, rounded worm, about half an inch long, blunt at one end, and pointed at the other, with six orifices at the larger end, one in the abdominal parts, and one at the smaller extremity. It was found by TREUTTLER in the fat about the kidneys of a woman who died in child-bed.

Of *hydatids*, there are two species in the human subject, enumerated by M. BREMSER. Different foreign writers vary materially in the number of kinds which they describe as inhabiting man. Thus, M. MARTINET, in his Manuel de Clinique, mentions three genera as found in the brain alone; while M. HIPPOLYTE CLOQUET, in the Dictionnaire de Medecine, admits five. The carelessness with which the classification, and the notes on this subject, are drawn up, (a charge which lies against M. DE BLAINVILLE,) is sufficiently obvious from his omitting the genus echinococcus in the one, and mentioning acephalocystis granulosa twice; first, as one of three species mentioned by M. LAENNEC, and then, in the very next page, as a fourth, added to these by M. HIPPOLYTE CLOQUET.

We possess the means of giving a systematic sketch of the hydatids which inhabit man, and had intended to do so in the present review; but we have found that the arrangements of the journal will neither allow sufficient time nor space for this object. We, therefore, abandon it for the present, and content ourselves with following our author.

Cysticercus cellulosæ is a worm always found enclosed in a cyst. When this is opened, the animal is found to consist of a roundish sac, entirely loose within the other; but provided with a head and

a wrinkled neck, possessed of considerable motion. This head and neck are commonly retracted within the vesicle of the tail, whenever the animal is irritated or exposed; and nothing is then seen but a sac, enclosed within another sac, but without adhesion. The principal seat of this hydatid is the cellular membrane; but our author agrees with M. Rudolphi, in not undertaking to deny that some of those found in the viscera may be of a different species; for which has been proposed the name of *cysticercus visceralis*. *Echinococcus hominis*, by some strange means, is not described, nor its place in the classification mentioned. From the beautiful lithographs of it, however, which are given, (two of them with erroneous references,) and from a discussion of some length relative to its history and identity, we will undertake to describe it as a spherical worm, studded with minute tubercles, liable to have an internal membrane which lines its cavity separated, so as to give the erroneous idea of another individual of the same species being within it, but frequently actually containing its real offspring in its cavity, and others within them again; in one instance, as far as the fourth generation. It is sometimes found provided with a visible mouth; and this, in some instances, surrounded with a range of hook-like processes.

Our author next enumerates several *pseudo-helminthia*, or substances which have been mistaken for internal or parasitic worms. Some of these are animals inhabiting the external world; which have dropped into the receptacles of human discharges, or adhered to wounds, of their own production, in such a manner as to give rise to the impression that they issued from the body. Others have been *seeds;* viz. of strawberries, hyoscyamus and alkekengi. *Toothache worms* are mentioned as a deception, and have probably been generally seeds.

In order to give an idea of the diversity of forms assumed by the parasitic animals which inhabit the interior of others, there is no better method than to make a sketch of an improved classification of them. M. De Blainville gives us, in his notes, the choice of four or five; but as that of Rudolphi, employed in the work, is the one which possesses the highest authority on this department of knowledge, it will answer our purpose best to copy it; postponing Oken, Lamarck, Cuvier, and M. De Blainville himself.

Parasitic worms are of five descriptions; viz. 1. forming a stiff cord, pointed at both ends; 2. forming a somewhat similar cord, but furnished with a trumpet or snout, armed with successive ranges of hooks or bristles; both these having a difference of sex; 3. short, thick and rounded, with perforations in their sides; 4. riband-shaped; and, 5. vesicular: the three last tribes being all hermaphrodite. Upon these distinctions are founded the *orders* in the following arrangement.

Order 1. NEMATOIDEA. *Thread-like worms.*

Body rounded, rigid, and elastic; an intestinal canal, with a mouth and anus; having two sexes. Head blunted. The males smaller than the females. The testicles of the male, and the ovaries of the female, resembling small intestines; and terminating at an opening nearer the head than the tail.

Generally inhabit the intestines.

Genera. Filaria, (which contains the Guinea worm,) trichocephalus, oxyuris, strongylus, ascaris, and six others not found in man.

Order 2. ACANTHOCEPHALA. *Thorny-headed worms.*

Round, cord-like, hollow, wrinkled, somewhat rigid; with a snout armed with several ranges of hooks. Having two sexes.

This contains but one genus, the echinorhynchus, which is not found in man. One species, the E. *gigas*, is found in the intestines of hogs.

Order 3. TREMATODA. *Perforated worms.*

Body roundish, or flattened, soft. Pores or suckers. Hermaphrodites. Form very much diversified; very seldom any visible head; filament connected with generation protruding; one or more pores (in one genus eight) in the surface of the body.

Inhabit the intestinal canal; and also, cavities resembling hydatids, in various parts of the body.

Individuals of only two genera are found in man; viz. polystoma and distoma; to which latter belongs the "liver fluke" of the English. The pentastoma frequently inhabits the *frontal sinuses* of animals.

Order 4. CESTOIDEA. *Riband-shaped worms.*

Body long, flat; often jointed, (as in the tænia,) head seldom furnished with lips, but generally with either two or four grooves or suckers. Hermaphrodites.

There is considerable diversity of form in this order, which the author acknowledges not to be a very natural one. These animals inhabit both the intestines and the substance of the body.

The genera, *bothriocephalus* and *tænia*, species of which inhabit man, belong to this order. There are six others.

Order 5. CYSTICA. *Hydatids.*

Mere sacs; with a head, visible or invisible at different times, furnished either with two or four small grooves, with four suckers and a crown of hooks, or with four trumpet shaped tubes. Hermaphrodites. Inhabit sacs in different parts of the body.

This order contains the genus cysticercus, found in man. The echinococcus, which, as we have observed, is neither described nor classed in the text before us, obviously belongs to this order.

Two other genera are given; one of them found in the viscera of fishes, the other in the brain of sheep, oxen, and antelopes.

Origin of parasitic worms.—On glancing our eye over the list of the contents of the work, we were not a little surprised and amused to perceive a copious article, entitled "*Digression de la formation des vers intestinaux sur la formation probable de notre terre.*" This may remind the American reader of a well known history of New York, from the creation of the world to the end of the Dutch dynasty. From the formation of intestinal worms to the origin of the world, is, indeed, a leap savouring somewhat of KNICKERBOCKER. We cannot, however, refuse our readers the amusement of a sketch.

All substances, according to M. BREMSER, are divisible into three classes; viz. *mineral*, *organizable*, and *intermediate* between these last. The second class contains substances which are adapted to enter into the composition of animals and vegetables; such as carbon, hydrogen, oxygen, azote, and the peculiar vegetable and animal principles. The third and intermediate class consists of water, air, and other matters which occasionally belong to both these departments of nature.

Now Mr. B. contends that the world, being originally a chaotic

mass, whether it was first formed as an independent existence, or merely separated, in a shapeless lump, from the sun, (a question which he wisely forbears to investigate,) underwent a series of consecutive changes, in which the different strata of known rocks were successively deposited, and the superincumbent mass materially altered in its chemical composition. Thus far, all is in accordance with the received doctrines of our geologists; but this is not all. These processes were *vital* as well as chemical. The world was possessed of a "living spirit," (*esprit vivant*, the term esprit bearing the various meanings of spirit, sense, wit, and temper;) and these successive changes took place for the purpose of separating to the bottom substances essentially dead, and leaving at the top those which were naturally endowed with life, and proper to form plants and animals. This took place at many different times, forming the successive depositions of rocks with which we are acquainted; and how many were necessary to form the interior parts of the earth, situated below the first granite, we shall probably never know. Our author, in another place, seems to think a similar operation necessary for the formation of the atmosphere, and gives youth as a reason why astronomers have never discerned an atmosphere in the moon. Now, it was not till after the superficial mass of the earth had been many times *defecated* by the deposition of a portion of its dead matter towards the centre, that what remained became fit for the support of vegetable and animal life. Vegetables and animals were then created, and we accordingly find their remains in the rocks of a subsequent formation. From time to time, the process was repeated; all flesh and all vegetation were destroyed from the face of the earth, a new stratum was laid down over them, and a fresh creation of organized beings took place, fitted to their newly prepared domicile.

These processes, whose actual occurrence is maintained by so many geologists, who do not dare to speculate concerning the mode in which they were executed, were, according to our author, *fermentations*. By chemical and mechanical means, they produced rocks and soils, and, vitally, they generated the animals which were to inhabit them. The "living spirit" of the world separated small portions of suitable matter, combined with them a part of its own existence, and converted the being thus formed

into a living thing. We have pondered long and deeply upon the meaning of an occult phrase which occurs here, and for some time had serious fears that it would prove to be possessed of no meaning at all. We incline to believe, however, that that which, in the language of the gods, is called "a shut whole," ("un tout clos,") signifies, in the dialect of men, *an independent being!* This generation or production of new chemical masses, supplied with vegetable and animal productions suitable to inhabit them, was similar to the *fermentations* carried on in our manufacturing and culinary processes. Chemists have described, with great nicety, the changes which the saccharine, the vinous, the panary, the acetous, and the putrid fermentations produce in the composition of the substances subjected to them; they can tell us the nature of the acids which are formed, and the number of cubic inches of the different gases that escape: but they overlook the vital part of the phenomena; they forget the production of *mould* and *infusory animalcules!* The only reason why stale dough does not produce trees, and vinegar, rhinoceroses and alligators, is that the quantity of matter in fermentation is insufficient. Who can judge or limit the effects to be produced by a whole world set to "rise" like a loaf of bread? Our forests are but the mould of this mighty mass, our grassy meadows merely "the green mantle of the standing pool," and our important selves, with our horses, oxen, camels, sheep, goats, dogs, &c. as well as our friends, the lions, tigers, panthers, and bears, are but a set of large vinegar eels!

Man, says our metaphysical author, was evidently formed in a season of profound repose. And why? Because of the exact balance which exists between his physical and spiritual parts; each of them predominating, with equal frequency, by turns! They are to each other precisely as "50 to 50;" and this precision in the compound could only be obtained during a time of entire tranquillity in things.

> He hangs between, in doubt to act or rest;
> In doubt to deem himself a god or beast;
> In doubt his mind or body to prefer;
> Born but to die, and reas'ning but to err;
> Created half to rise, and half to fall;
> Great lord of all things, yet a prey to all;

Sole judge of truth, in endless error hurl'd;
The glory, jest, and riddle of the world.

Should that convulsion, however, which brought us upon the stage, not be the last, should a new fermentation take place, the soil be once more purified by the precipitation of an additional share of earthy particles to the substratum, and the surface be left still more highly stocked with vitality, we may have, perhaps, a race of beings, in whom spirit shall be to matter as 75 to 25; in which case, it is absolutely impossible for beings of equiponderancy, like ourselves, to conjecture to what extent arts and sciences may be carried, or whether things may not be discovered, unintelligible to us, but standing in the same relation to what we call knowledge, as our chemistry or astronomy does to the wisdom of a beaver or a spider.

Our readers will probably be of opinion that we have now given them enough of this kind of matter. We could not, however, refrain from inserting the above, as a specimen of the strange vagaries into which medical men may be led, according to the prejudices of their youth, or their natural and other peculiar habits of mind. In Vienna, no doubt, this is profound thinking. We would conjecture that it may be "*transcendental*" philosophy; at least, we are sure it transcends ours. And yet there is a strong vein of forcible and original thought in the article, which serves, like the amiable qualities of Don Quixote, to preserve our interest for the tale and the hero, while, at the same time, it heightens the burlesque.

After this preparatory sketch, it will be readily inferred that the conclusion of M. Bremser is in favour of the doctrine of equivocal or spontaneous generation. When digestion is more rapid than absorption, matter of a species suitable to become organized accumulates in the intestines in a quantity greater than the system has occasion for; it, in consequence, ferments, and produces "un tout clos." After this, however, the newly formed being propagates its species by generation, in the manner usual among animals of an analogous structure.

Our author discusses at considerable length the opinions of Brera; who believes that ova are received from without, but cannot decide whether this takes place through the placenta

during utero-gestation, from the milk of the nurse, from the surface of the body in the act of sucking, or, finally, in our food and drinks. Some of these hypotheses would imply that the eggs circulate in the fluids, as buds are said by Mrs. IBBETSON to do in plants, until they find a proper nidus, where they take root and grow.

Dr. BROUSSAIS cuts the knot very briefly, by saying that worms are produced by *inflammation!* Vide *Catechisme de la Medecine Physiologique.*

We acknowledge that we are not prepared with a positive opinion on this difficult point; but that it appears to us to be inexplicable on any known principle. There is no doubt, however, of the following facts.

Worms have been and are found, in numerous instances, in parts of the body which do not communicate externally. We have mentioned the distoma hepaticum, the filaria dracunculus, &c. Hydatids are very common in the human subject. In animals, a great variety of worms have been found so situated. Professor BREMSER quotes Mr. HOPKINSON and Dr. MORGAN for the account of a living filaria (filaria papillosa) which was seen in a horse's eye in Philadelphia.* The author then proceeds to state that himself, together with many other physicians, saw similar worms in the anterior chamber of the eye of a horse, which was produced at the veterinary school of Vienna, in 1813. Similar cases have been published more recently, as occurring, not unfrequently, at Calcutta.† Worms are found in the fœtus, and in the umbilical cord. The whole appearance and structure of these beings differ essentially from those of worms found externally to the animal body, and are adapted to their peculiar mode of life. Mr. B. states that he can always distinguish a parasitic worm at a glance. They immediately perish when exposed to cold and other external agents. The cases in which intestinal worms have been said by authors to be found in external nature, are all liable to the most important causes of error. In several instances, they may have been, and no doubt were, deposited by animals in their discharges. In others,

* For the benefit of American readers, we insert the reference, which is omitted by M. BREMSER. Vide Works of FRANCIS HOPKINSON, Esq. vol. i. p. 372; or Transact. Amer. Philos. Soc. for 1783.

† Vide Ed. Med. and Surg. Journ. Jan. 1826.

no accurate scientific examination took place; and one worm was mistaken for another. On the other hand, worms of the same species, and constantly resembling each other, inhabit the intestines or other parts of the different individuals of any particular race of animals; although they frequently extend to many species of the same or an analogous genus. This certainly seems favourable to the idea of the transmission of germs. They may also inhabit particular regions of country. A striking example of this is that furnished by the bothriocephalus and the tænia, as mentioned above.

Whether, in fact, the work of creation be going on around us and within us, is a point which we fancy it utterly impossible for human wisdom, at the present time, to decide. At least, until we are in possession of much more information respecting it, we shall not attempt to prove the negative of this proposition. That the generation or development of worms is promoted by the use of particular articles of food, is acknowledged by both the writers, whose differences of opinion we are recording.

Anatomy.—M. Bremser's work contains but little in the anatomical structure of these singular beings; and its descriptive parts are chiefly confined to those mere external zoological characters by which the animals may be recognized. There is, in fact, but little knowledge of this kind in the possession of the scientific. This reflection induced the Royal Academy of Sciences of France to propose for a prize the production of the best essay on the anatomy of the two intestinal animals, ascaris lumbricoides, and echinorhynchus gigas. Both these were very suitable objects of choice, from their size, which rendered it the easier to dissect them, as points of subsequent comparison with others; and the echinorhynchus seems to have been associated with the ascaris, from its general external resemblance, and from the remarkable differences of its internal structure. The essay of M. Cloquet, cited at the head of this article, was the one which received the prize. We have not space to give a copious abstract, but shall present a general sketch of the anatomy of the ascaris.

The external rigidity of this animal is owing to the hardness of the skin. To this, on the inner surface, closely adhere two coats of muscular fibres; the first forming entire circles round the body, the second longitudinal, and arranged in a dorsal and an abdominal

muscle. The *middle lines* of the back and abdomen are, according to our author, nerves. No more central sensorium than this is visible; but these cords, frequently, though not always, form anastomoses around the œsophagus.

The ascaris is provided with a visible mouth, in the centre of the anterior extremity, surrounded by three tubercles, which are the points of insertion of the abdominal and dorsal muscles, and which are supposed to perform a species of trituration on the substances they swallow. To this succeeds a very distinct œsophagus, separated from the stomach by a contraction, and endowed with a dense, muscular arrangement, possessing in a peculiar degree, the power of dilatation; no doubt, for the purpose of suction. Next follow a stomach and intestine, occupying the whole remaining length of the body; through which they pass, in a direct line, to the posterior extremity. To the inner surface of this the intestine finally adheres, and it terminates in a transverse slit, forming the anus.

The chyle, or nutrimental fluid, by whatever name it be called, appears to be absorbed principally from the stomach, and by means of a series of vessels which diverge in two directions from each of the two edges produced in that viscus by the flattened form it possesses. From these, there seems to be a close transition to a set of transverse vessels, which line the back and abdomen of the animal; having, mixed with them, a multitude of pendulous cæca, presenting a very singular appearance, and for which no further use has been found than to contain the nutritious fluid. These are liable, at first sight, to be mistaken for a paste. They are minute, and hang, crowded loosely together, in a cavity moistened with a halitus, and much resembling the peritoneum of larger animals.

The organs of circulation are supposed by our author to be two whitish, lateral lines, extending nearly the whole length of the animal, just within the skin, and opposite the before-mentioned edges of the stomach. These are filled with a spongy matter, which Mr. C. believes to be pervaded by the nutrimental fluid; but in what manner this substance is circulated, he frankly confesses his ignorance.

No apparatus for respiration is found in this worm; unless, as some have conjectured, such be the office of the parts we have

just described. M. HUMBOLDT is of opinion that intestinal worms respire by the skin.

The male possesses an organ bearing a singular analogy to the spermatic tubes and vas deferens of quadrupeds and men. It is composed of a single tube of great length, involved in the most intricate manner, and terminating in an enlargement, which still retains the tubular form. The first of these is styled testicle; the latter, vesicula seminalis. This last then terminates in the tubular cavity of a penis, which is capable of being protruded from the anus.

In the female there are two tubes, which resemble the former so much as to require little further description, but much longer. These are the ovaries. They terminate in enlargements of considerable length, which are the cornua of the uterus; and an extremely short junction and outlet are dignified with the names of body of the uterus and vagina. The external orifice is at one-third of the animal's length, measuring from the head; and, at this place, there is a contraction of the skin, peculiar to the female. This worm is oviparous.

The ascaris is subject to ulcers, scratches, bursting of the abdomen, with escape of part of the genital organs, palsy of the posterior part of the body, transverse rupture of the œsophagus and of the whole thickness of the worm, tubercles of the skin, and varicosities of the lateral lines.

The anatomy of the echinorhynchus presents much curious matter; but our limits positively forbid an abstract. This being is added to the fleshy part of sponges, and, we believe, of some corals, and to the tænia and bothriocephalus, as an additional example of an animal possessed of no *stomach* or *intestinal tube*. This exemption from gastro-enteritis furnishes another stumbling block to those naturalists who have assumed the stomach as the distinguishing characteristic of an animal body; as well as to a late pathologist, who, in his ardour for propagating "la doctrine physiologique," gravely assures us that the digestive tube is the essential part, the "partie fondamentale," as SPURZHEIM says, of the animal, and that all the other trifling organs, such as the skeleton, muscles, and even the brain and nerves, are mere subsidiaries to this great organ of gastronomy. It is proper to add, that the echinorhynchus possesses no nervous system, which is, indeed, a

pretty important part of an animal; and yet this thing is capable of a strange kind of copulation, in which the male protrudes a funnel-shaped organ, in which he *receives* the tail and vulva of the female, and fixes on them a kind of cup, composed of a mucous substance, but which is supposed to contain the semen, and thus to fecundate the eggs as they are discharged. M. CLOQUET has seen this copulation in living echinorhynchi contained in the intestines of a fish; and he has given us a neat engraving of it.

It is conjectured that the echinorhynchus *may* receive its nourishment through pores, one of which is placed in the middle of the trump, situated at what is called its anterior extremity. How to judge which extremity is anterior, in a thing that has neither brain, eyes, limbs, nor mouth, is rather a doubtful inquiry. This, however, is the end which adheres to the intestine. The trump, when protruded, is a knot or tubercle, with a neck, and covered, over its convex surface, with a number of reverted hooks. By a complex apparatus of muscles, this can be retracted into the animal's body, the centre entering first, so as to convert the organ into what its name imports, a real trumpet or cup. In this state, the points of the hooks project directly forwards. When gradually protruded again, those of the edge, which escape first, can be inserted directly into the intestine; they are then expanded, and partially retroverted, a fresh range inserted, the whole then reverted a little further, another set inserted, and so on; till the trump and its thorny appendages are completely buried, with the hooks in their natural position, within the substance of the membrane. The latter then obligingly forms a large tubercle to accommodate its lodger; on the removal of which, a cavity is left, presenting an exact mould of a trump, thorns and all. Such are a part of the wonders of the microcosm of our intestines; at least, of those of hogs and fishes. Poor mucous membrane, how much it has to bear!

Symptoms.—We do not observe, in the catalogue of symptoms given by M. BREMSER, any thing which it is particularly necessary to extract. The usual list is given; paleness, an occasional flush, a blue circle round the eyes, itching of the nose, &c. &c. One of our favourite American symptoms, the author does not mention—the starting from sleep with a sudden outcry. This is added in a note by the translator. M. BREMSER is at great pains to exemplify

and enforce the remark, that the ill effects of worms are greatly exaggerated. An enormous quantity of worms are not unfrequently found in the intestines of animals killed for the purpose of examination, and which did not, previously to death, exhibit any marks of disease. Three cases are given, (p. 377, 8, 9,) in which individuals had, at a former period, discharged tænias, and had continued for a long interval to be harassed with the fears of still retaining one, as well as with the administration of medicines. One of these unfortunate persons had been purged almost to a skeleton. Remedies were omitted, and the patient got well, to the disgrace of the physician. M. Bremser does not believe that worms are capable of absolutely obstructing the intestinal cavity, and thus producing ileus or mortification. He analyzes with much skill a number of cases, which he finds in books, given as instances of these effects; and shows, in a satisfactory manner, that the inference drawn was erroneous. If worms are really capable of producing strangulation in a hernia, Mr. B. argues that this must be far more easily manageable than any other species; as the parasites would not only be easily expelled by pressure, during the taxis, but must be induced, by the irritation, to withdraw themselves by a voluntary or automatic act; in doing which, they possess a peculiar facility, from their taper or riband-like form. Among a variety of instances, less numerous indeed than we expected to find them, of different nervous diseases produced by worms, such as epilepsy, chorea, &c. a case is inserted, from M. Serres, of symptoms from this cause resembling hydrophobia.

Treatment.—About one hundred pages are occupied with this subject. We are presented, in detail, with no less than fifteen different methods of destroying the tænia; viz. by Alston, Beck, Buchanan, Clossius, Desault, De Hautesierck, Herrenschwand, Lagene, Lieutaud, Mathieu, Madame Nouffer, Odier, Ratier, Schmucker, and Weigel. We conceive that the purposes of the reader will be best answered by giving, in a condensed form, first, the author's own methods of treating the particular worms, and, afterwards, a list of those remedies which he considers as most worthy of attention.

Of the presence of the *trichocephalus*, he acknowledges he is possessed of no means even of forming a reasonable suspicion in any given case; and yet, as we have mentioned above, it occurred

in almost every subject he examined. Two or three of these worms generally inhabit the cæcum, without producing any inconvenience to the animal economy. He has met with no case in any author, where a worm of this species was discharged during life, and saw but one himself. This took place during the use of remedies for the removal of a tænia.

The *oxyuris vermicularis* is well known as an inhabitant of the rectum. They have been found as far up as the cæcum. These are characterized as the most troublesome worms which infest the human body; and they are, at the same time, from their great numbers and rapid propagation, remarkably difficult, and, perhaps, impossible to exterminate. They occasionally inhabit the vagina; and two cases of intolerable pruritus, approaching to nymphomania, are cited, as having occurred from this cause.

M. BREMSER reposes but little confidence in vermifuge medicines given by the mouth, for the removal of the oxyures of the rectum. Nevertheless, with a view to drive them downwards, within the reach of enemata, he commences by the use of the electuary, marked, in a subsequent page, No. 1, in the dose of a tea-spoonful morning and night. He is fond (j'ajoute volontiers) of adding a little jalap to it. He then advises a small injection of bitter plants twice a day. (Vide formula, No. 2.) The enema should never be given but after having a stool. In constitutions which are not irritable, he adds a table spoonful of fresh beef bile. This treatment should be continued for several weeks consecutively; after which, the patient will experience a long interval of repose, and *perhaps even* be radically cured. An injection of oil will greatly relieve the itching produced by these animals. To remove them from the vagina, inject cold water with a little vinegar.

For the *ascaris lumbricoides*, or for the *verminous disease* which usually accompanies and produces them, Mr. B. gives a teaspoonful of formula, No. 1, morning and night; and this, in three or four days, generally brings away a large quantity of glairy matter, frequently containing worms. If glairy matter be not discharged, the dose must be increased; and if the quantity there described be not sufficient, he directs a repetition, always taking care to avoid active purging, but only to remove fæcal and glairy matters. This is generally sufficient. Where purging is required,

he uses No. 3; and, in lymphatic constitutions, he administers the tonic marked No. 4, for some time, to prevent relapses.

M. Bremser considers this as the treatment, not so much of worms, as of a *verminous disease*. He so far coincides with the opinion of Broussais above alluded to, as to suppose that the worms are produced by a peculiar state of the actions of the system, which forms a quantity of white nutrimental matter, under the names of mucus and glaire, beyond the necessities of the body or the power of the lacteals to absorb it. Removing this, and preventing its recurrence, the worms perish as a matter of course, and are sometimes digested. At any rate, the author has found the purpose answered, and the patient's health restored, in many cases where no worms were discharged; and we believe many American physicians could confirm the statement.

For diet, he "forbids farinaceous matters," dry legumes, and fatty substances, and directs a very limited use of bread. This treatment he has always found successful.

For the *bothriocephalus* he has no treatment distinct from that proper for the common tænia. He has never attended more than three cases of the former; and authors haye always confused the two together in their narrations. Mr. B. has treated upwards of five hundred persons afflicted with tænia; and of these not more than four were ever obliged to take the oil of Chabert a second time, with the exception of a fifth, who was again affected with tænia at the expiration of two years, which our author attributes to a new production of the worm, and not to generation by those which preceded it.

The method of treatment is as follows. Commence with one prescription of the electuary, No. 1, and give it, in the manner above directed for ascarides, till it is exhausted. Then give the empyreumatic oil of Chabert, in the dose of two teaspoonfuls morning and night, with a little water. To get rid of the offensive smell, swallow with some effort a few mouthfuls of water; but carefully avoid rinsing the mouth, as this process is apt to project minute portions of the oil into the posterior nares, and by this means the smell is retained for a long time. If the taste be thought unpleasant, chew a clove or piece of canella alba; but avoid mint and other substances capable of producing eructations.

Many persons are unable to bear this dose, and in these it occa-

sions uneasiness at the stomach, dizziness, nausea, eructations, and colic. M. GRUNDLER, the translator, was unable to take, in his own person, more than half a teaspoonful. Where difficulty is met with, it may be taken an hour and a half after a meal; in other instances, before meals.

After taking two and a half or three ounces of this medicine, a purge is given; for example, No. 3, and then the oil is recommenced. Four or five ounces are given in common cases; and, in those which have resisted many remedies, six or seven. This requires from twenty-four to thirty-six days. All successful empirics and others, he says, enjoin the use of their remedies for about a month. M. BREMSER has generally seen the worm discharged, half digested, at an early period of the treatment; and he continues the use of the medicine, to allow any ova which may have been deposited in the mucus of the intestines, to hatch and expose the young to the action of the medicine. This is the more proper, as it is known that ova and seeds will bear many things without injury, which would destroy the living animal or plant.

The only diet prescribed is moderation in the use of the articles enumerated above as injurious in cases of ascarides.

The test of cure is the continuing three months free from all traces of the worm. Should these recur at a later date, our author considers them as arising from the formation of a new tænia, not the offspring of its predecessor.

The detection of the *head* in the discharges is inconclusive as a proof of the cure; as it is not uncommon to find two or more tæniæ in the same patient.

We now proceed to the author's formulæ; which we have been obliged to translate into a mode of writing more familiar to Americans, and, we will add, more scientific, than that which he employs.

No. 1. The electuary.

R. Sem. artemisiæ judaicæ, cum flor. tanaceti vulgaris, leviter contus. - - ℥ss.
Pulv. valerianæ, - - - ʒij.
jalapæ, - - ʒiss.....ʒij.
sulphat. potassæ, - ʒiss.....ʒij.
Oxymel. scillæ, q. s. *m.* ft. electuarium.

Two or three teaspoonfuls to be given in the course of every day.

No. 2. The enema.

R. Herb. artemis. absynthii, et
Rad. valerianæ offic. āā - - ℥i.
Sem. tanaceti vulgar. et
Cort. aurant. āā - - ℥ss.

m. et conserves in usum.

Pour a pound of boiling water on two table spoonfuls of this mixture, cover the vessel and digest for one night, strain, and employ the liquor for two enemas, adding to each of them one teaspoonful of empyreumatic oil of hartshorn.

No. 3. The purge.

R. Pulv. jalap. - - - - ℈j.
fol. sennæ, - - - ʒss.
sulphat. potass. - - ʒj.

m. ft. pulv. in dos. iij, vel iv, dividend.

One dose to be taken every hour, or half a dose every half hour, till they operate.

No. 4. *Empyreumatic oil of Chabert.*

R. Ol. empyreumatic. cornu cervi, partem j.
Ol. terebinthini, - - partes iij.

m. digeras per dies iv, et distillas partes iij.

For its dose and employment, vide the preceding pages. This article must be kept in small vials, well corked and tied over with pieces of bladder; as contact with air renders it more disagreeable.

No. 5. Tonic tincture.

R. Tinct. aloes composit. pharmacop. Austriac. ʒj.
Tinct. martis pomatæ pharm. ejusd. ℥j.
Elixir vitrioli pharm. Londinensis, ℥ss. *m.*

To take ten, twenty, thirty or more drops three or four times a day, in a little water or wine.

M. Bremser acknowledges this last compound to be unscientific, as it undergoes decomposition; but he boasts of its success. We do not fear being at a loss to form one equally good from the American Pharmacopœia.

Of particular remedies.—The frightful number and absurdity of those which have been recommended by authors, at different times, for the cure of worms, are, by M. Bremser, justly turned to ridicule. He cites, from Leclerc, the following specimen, being a part of those taken by the latter from the animal kingdom

alone. Alcis ungula, anseris adeps, apri urina, avium pennarum cinis, bovis talus ustus, bovis stercus ustum, cum castoreo suffitum, caprinum stercus, caseus veteratus, cantharides, hominis urina, et ossa, lumbrici intestinorum exsiccati, &c. &c. &c. &c.

Of the immense mass of medicines proposed as anthelmintics, the notorious and long felt difficulty is to make a selection. We shall conclude, therefore, with enumerating those which are considered by our learned author as worthy of attention; occasionally making such observations as the occasion seems to call for.

Mechanical irritants.

Zinc, in filings or granulated. PALLAS prefers the granulated form, as he considers the filings too irritating for the bowels.

Cow-itch, the stizolobium or dolichos pruriens. The author appears to possess no knowledge of this remedy but what is borrowed from CHAMBERLAINE's little work.

Powdered charcoal. Said by PALLAS to be used in Iceland.

Yellow carrots, grated. Used in Germany.

Substances specifically destructive of life to the worms.

Cold water. Useless, when given by the mouth, as it becomes warm before it reaches the small intestines. As, however, this is speedily fatal to all intestinal worms, it is employed with advantage in injections.

Mineral waters, containing sulphate of soda. These, which our author, with a rather unbecoming slight to chemistry, calls, in one place, simply "salt water," have been very effectual in removing tæniæ at "St. Chat, near Sadler's Wells, near London."

Powdered root of Valerian. Very efficacious as a worm-poison; and possesses the additional recommendation of being highly serviceable to the nervous symptoms which worms sometimes produce.

Garlic.

Onions.

Semen contra. This strange name is applied to the artemisia judaica, the article otherwise called semen santonici and semen cinæ. This is a favourite remedy of our author. He seems, however, always to have given it in combination with flowers of tansy, (tanacetum vulgare,) in proportions not mentioned. This mixture is probably an article familiarly kept by the Austrian apothecaries; and we have no access to a copy of their pharma-

copœia. It should be somewhat coarsely powdered, and recently so, as it spoils by keeping.

Fucus helminthocorton. The standing remedy of the French physicians.

Chenopodium anthelminticum. We live in such an obscure corner of the world, that we must not be mortified to find the use of our favourite "worm-seed oil" merely set down as an "*on dit.*" "The seeds of this plant are, *as people say*, often employed in America against ascarides;" and this fact, cited from BRERA, is all M. BREMSER knows about it.

Cortex angelinæ.

Grana crotonis tiglii. Rather a purgative than a poison, as M. BREMSER remarks.

Spigelia anthelmia, and *spigelia marilandica.* Our author follows VAN SWEITEN in condemning the use of both these as highly dangerous. Indeed, when we consider Mr. B.'s entire ignorance of our every day remedies, and our ignorance of his own, we are sometimes tempted to fancy that it is of China or Japan that we are reading, and not of the people that proudly inscribed the ceilings of their palaces with the five vowels, a, e, i, o, u.*

Geoffræa Surinamensis.

Semen sabadillæ.

Juglans regia. An infusion of walnut hulls; or, according to ROSENSTEIN, an extract of them.

Assafœtida. M. BREMSER evidently doubts the usefulness of this article, which he describes as much in use, "probably because it has a bad smell."

Camphor. Many authorities recommend this substance. M. BREMSER inclines to think that they have mistaken a discharge of worms produced by fevers for the effects of the medicine employed. We seldom render ourselves liable to this mistake, in America, as we do not often use camphor in fevers.

Male fern. Polypodium filix mas. This remedy, the basis of Madame NOUFFER's famous medicine, is still much in use in Europe. M. BREMSER does not think it successful against the true tænia; though he acknowledges it to be so against the bothriocephalus

* Austriacorum est imperium orbis universi. Vide lady MONTAGUE's letters.

or *tænia lata*. He recommends its use, however, as a good test of the presence of the tænia; as, if it do not bring away fragments, the chance is "ten to one" that none is in existence. Our author thinks it will not completely destroy the true tænia solium.

Male fern should be carefully gathered while in good condition, and both the top and bottom of the root cut off, to be rejected.

Prussic acid.

Petroleum. Stated by several authorities to be useful for tænia.

Oil of turpentine. We need not condense his comments. The reader will observe that this enters into his favourite article, again to be mentioned.

Oil of Cajeput. Recommended by RUDOLPHI.

Animal oil of Dippel. Successful against the ascaris, and sometimes against tænia.

Empyreumatic oil of Chabert. This remedy, which is our author's principal dependance against tænia, has been already mentioned.

Quicksilver. M. BREMSER believes this article entirely useless, except from the lead it contains.

Salivation, with oxides and salts of mercury, does not destroy worms. SCOPOLI observed *a very unusual number* of ascarides among the workmen employed in the quicksilver mines at Idria. Certainly, if this be true, it is time such a dangerous and cruel practice was abolished.

Meconate of barytes, and

Solution of arsenic, will destroy worms, but are rejected, as highly dangerous poisons.

External application of these remedies by friction on the abdomen. M. BREMSER asserts that this method is capable of destroying worms. He takes occasion, however, to combat an idea which had met with advocates, that ascarides adhere to the inner coat of the intestines, or that these or any other intestinal animals were capable of perforating them. He enumerates, as having been employed in this way, oil of cajeput, warm baths, petroleum mixed with garlic, beef bile, poultices of tansy, antirrhinum linaria, and wormwood, unguentum Agrippæ, unguentum Arthanithæ, aloes, coloquintida, ether, camphor, and galbanum, together with other substances employed as vehicles. Mr. B. contents himself with

saying that they may be used by those who will not take remedies internally. This sounds rather unprofitable.

Purgative medicines. Of course it will not be expected that our author should enumerate all the purgatives proper for removing worms and glairy matter. The *sulphates* of *potassa* and *soda* are recommended. The *muriate of soda* is quoted from an English work. *Tartar emetic* is quoted from various authorities, and judged peculiarly proper for verminous fevers, where it is indicated by other symptoms. *Nut oil* is thought to have been useful among the Germans, for removing tænia. *Castor oil* and *senna* are mentioned with approbation; but a decided preference is given to *jalap.*

In conclusion, we have only to add, should inconsistencies which have crept into our analysis remain uncorrected, that we claim indulgence on account of the peculiar difficulty of our task. No one would anticipate the trouble and delay we have met with; and, indeed, should our review be pronounced confused and undigested, it might well deserve these epithets, and yet be a very fair representative of the book. It is full of valuable materials, with some most amusing eccentricities; and yet is in so crude a state, that this must unavoidably greatly diminish its usefulness.

ARTICLE VIII.—*Precis Theorique et Pratique sur les Maladies de la Peau.* Par M. S. L. ALIBERT, 2 tomes, 8vo. Paris, 1810, 1820.

THE work, whose title constitutes the heading of this article, is offered to the public as the result of long continued experience. The observations are principally drawn from the clinical practice of St. Louis' hospital in Paris, established for the reception of persons affected with diseases of the skin. In this vast theatre, where so many cases are continually accumulated, the author had ample opportunity of observing the diversified forms exhibited in this class of morbid affections, of watching the progress, periods, and decline of the several species, and of noting the comparative effects of the various remedial means employed for their relief.

Coming from one enjoying a distinguished rank in his profession, possessing so fine a field for observation, and assiduously devoted

to the improvement of this branch of pathology, this will be received as of high authority, and will be eagerly read by all to whom it is accessible.

Many of our practitioners are not familiar with the French, and few copies of the work before us have reached this country. We shall, therefore, probably render an acceptable service to the readers of this Journal, by presenting an epitome or condensed view of ALIBERT's valuable treatise on the diseases of the skin.

In the sketch we are about to lay before the American public, we shall abstain from critical remarks on the doctrines and practice contained in the original, and we feel this to be more incumbent on us, as we are sensible that from our own experience we are unprepared to controvert in any particular the correctness of the author's statements, to throw any additional light on portions of the system still involved in obscurity, or to establish clearer indications in the treatment of those defœdations of the skin which have hitherto proved obstinate if not incurable.

Some apology may be due to the author and to the public, if, in the execution of this abridgment, we have not conveyed the exact meaning of the text. We disclaim all intention to pervert or to falsify. We have sought not to exalt or to decry; officiating as the mere purveyors or retailers of knowledge, emanating from the most respectable sources, we have been anxious to perform the duty of analysis with fidelity, and in a manner that may be useful.

TINEA.

First species.—*Tinea Favosa.*

The crusts form tubercles of a yellow colour, insulated and circular, or running together, constituting large incrustations on the hairy scalp, the centres depressed and pitted, their edges raised and prominent, resembling the cells of the honey-comb.

It commences by very small pustules, attended with itching, and seated on the hairy scalp. The contents are puriform, and, on drying, give rise to numerous crusts or tubercles, excavated in the centre, gradually increasing in size, though still preserving the circular form.

When very numerous, the edges are blended together, and then the central depression is no longer perceptible. In the more recent cases, the crusts are yellow, but in those of longer standing,

they are white, broken and detached from the scalp, their regular form being destroyed.

The cutis is deeply affected, and the scabs cannot be removed without occasioning the discharge of blood.

Frequently there are rhagades or chops, succeeded by a discharge of corrosive ichor, destroying the scalp, and even the bones of the cranium. This destruction of the bones is, however, of rare occurrence.

The patient becomes troubled with lice, and the itching is intolerable. The odour resembles that of apartments frequented by mice, or it may be likened to the urine of cats. On the falling off of these crusts the smell is very nauseous.

In the spaces between the pustules furfuraceous scales are frequently observed.

Baldness sometimes follows, and the skin presents a smooth and polished surface.

The enlargement of the lymphatic glands, and the tumefaction of the skin are neither constant nor peculiar to this disease, and are, therefore, not enumerated among the essential symptoms.

In illustration he gives six cases; these show that the disease is not confined to the hairy scalp.

Second species.—*Tinea granulata.*

The tubercles consist of small grains of a gray or brown colour, irregular, unequal, and without central depressions.

The disease is not so diffused, and is more frequently confined to the posterior and upper parts of the head. ALIBERT describes the crust as resembling broken mortar.

The pustules are distinct, and do not deeply affect the skin. In the intervals branny scales are frequently observed. The odour resembles rancid butter or putrid milk, very perceptible when the eruption is moist, but when dry this odour vanishes.

The itching is very distressing. On removing the crusts, the scalp appears red and erythematous. Small abscesses are seen, which secrete a viscid matter, that concretes and forms the scabs. It is confined to children. Six cases in illustration.

Third species.—*Tinea furfuracea.*

Distinguished by the branny scales. White, sometimes moist, and adherent to the hair by means of a viscid, fetid matter; at other times dry, and readily falling from the head.

It commences by a slight desquamation of the cuticle, accompanied by itching. From the inflamed skin there is an ichorous discharge, that, on drying, forms numerous scales.

It is, for the most part, confined to the hairy scalp, though it occasionally attacks the forehead. It never affects adults. Six cases in illustration.

Fourth species.—*Tinea asbestena.*

Scales white, shining like silver, matting the hair.

This disease, first described by ALIBERT, occupies, generally, the upper and fore part of the head. It is characterized by the fine shining scales which adhere to, and cover the hairs like the pellicles of new formed feathers. It is dry and inodorous. Four cases in illustration.

Fifth species.—*Tinea muciflua.*

It consists of small superficial ulcerations, affecting the hairy scalp, though sometimes extending to the forehead, temples and ears; nor are the trunk and extremities exempt. These ulcers secrete a fluid, resembling damaged honey. When the matter dries, it is yellow, like wax. These ulcers are preceded by pustules of various sizes, by pointed vesicles, or small abscesses. The rupture of these, whether spontaneous or occasioned by the child's scratching, is followed by the discharge of a viscid fluid, that is converted into soft scabs of a pale yellow, mixed with pink. The part of the scalp, not occupied by these ulcers, is swelled, and raised into lumps; and the ears become much swollen. The cheeks are inflamed, and there is violent itching.

The head rendered bald. The denuded scalp being red, smooth and moist, exhaling an odour like sour milk that is putrifying.

According to ALIBERT, when the eruption is dry, the health and spirits of the child are impaired, but on the discharge being renewed, the functions are regularly performed, and the countenance is animated. Four cases in illustration.

The tinea favosa and the tinea muciflua constitute the most frequent forms that come under the notice of the physician. The tinea furfuracea, being a milder disease, is more frequently the subject of domestic treatment.

The whole system becomes affected. Languor; inaptitude for any exertion of mind or body; racking pains at night; emaciation; deficiency of growth; imperfect development of the sexual or-

gans, and the non-appearance of those changes which usually occur at the age of puberty. The nails become diseased, covering a glutinous fluid.

The disease rarely affects infants at the breast, but makes its first attacks from about the second year, up to the seventh. The tinea asbestena has been observed only in adults. Most of them disappear about the age of puberty, and without medical aid.

ALIBERT considers the disease as connected with the various successive evolutions of the system before it arrives at maturity. He appears inclined to the opinion, that even the development and exercise of the intellectual faculties may have some agency in the production of the complaint.

Upon this principle, Dr. ALINGER proposes to inoculate the matter of tinea muciflua, with the view of preventing or curing some of the obstinate diseases, incidental to children. And Dr. L'HOMME, a physician, residing at Oulchyle Chateau, adopted this practice with the happiest success in a child, affected with a chronic enteritis. By means of a lancet, imbued with the matter obtained from the tinea muciflua, he made six punctures on the forehead of his little patient. And, to insure the success of this experiment, every night the child's head was covered with a piece of linen, moistened with the same fluid. In ten days its face was covered with moist scabs. In proportion as the eruption took place, the symptoms of enteritis vanished, and, by the aid of mild tonics, the child recovered its appetite and strength.

He refers to FORESTUS, BONET, and HOFFMAN, in proof of the appearance of hydrocephalus from the repelling of tinea.

The different temperaments are not equally subject to the various forms of tinea. The T. favosa is generally observed in children of a bilious and sanguineous temperament. Those having a dark, or brown skin, are the most liable to the T. granulata. The T. furfuracea is most commonly seen in persons having brown hair. The T. asbestena has uniformly occurred in persons of a melancholic temperament. The T. muciflua affects children with yellow hair.

Gross and indigestible food, abounding in albuminous matter, has been considered as favouring the production of tinea. Want of cleanliness is another frequent cause. According to ALIBERT, this disease is rarely propagated by contagion.

The complaint under consideration is certainly not seated in the bulbous roots of the hair, as it is frequently seen in those parts where the hair is entirely wanting. The original seat of the disease is in the skin itself. The anatomical investigations after death shed no light on the nature of the disease.

From the chemical experiments of M. VAUQUELIN, it appears that the T. favosa contains more albumen than gelatine, that the T. furfuracea contains an excess of gelatin, and that the T. granulata is entirely gelatinous.

The treatment directed by ALIBERT consists in the exhibition of a bland and light diet, avoiding all those circumstances which can cause a sudden disappearance of the disease. He speaks not with confidence of any specific treatment: of the various topical means which have been recommended, he obtained the greatest success from a cerate mixed with flowers of sulphur.

Bloodletting, general and topical, blisters, issues, &c. as proposed by AMBROSE PARY, FORESTUS, and GUY DE CHAULIAC, are to be employed as circumstances may require. On some occasions, he found bathing the part with warm water particularly beneficial. Sometimes mere attention to cleanliness will remove the disease when in its milder forms.

In explanation of the contradictory results observed in the treatment of tinea, he remarks, that, like other cutaneous affections, it has its periods of invasion, increment, and decline, and that the success of the remedies will depend upon their being adapted to these several conditions.

In summing up his experience, he notices the benefit he obtained from ablutions with bran water, particularly when impregnated with the flowers of sulphur, and from the use of the factitious sulphur water of Naples and Bauges, which contain the hydrosulphuret of soda. In the inveterate forms of tinea he employed very successfully an ointment composed of common potass, carbonate of potass, and the carbonate of lime. The proportions are not given. With this topical treatment, he at the same time directs the internal exhibition of the preparations of sulphur, and the juice of demulcent plants.

PLICA.

Plica signifies the matting of the hair, and appears to be endemic in Poland, Lithuania, Hungary, and Transylvania, from the

source of the Vistula as far as the Krapach mountains, in Prussia, Russia, and Great Tartary. It has been rarely observed in the western parts of Europe. According to the testimony of Roderick à Fonseca, some of the Indian tribes in South America are affected with a similar disease.

It is not peculiar to man, but frequently attacks quadrupeds, both domestic and wild. Birds, however, of all kinds appear to be exempt.

Three cases only have come under the notice of Alibert, two of whom were Poles, and the other was a native of the north of France. His information has been, therefore, not the result of experience, but derived from those writers whom he deemed the most entitled to respect. He describes three species.

1. Plica caput medusæ, of which he gives two varieties.
A. Plica caput medusæ lacciniata.
cirrhata.
2. Plica longicaula. Four varieties.
lateralis.
fusiformis.
fulciformis.
clavæformis.
3. Plica cespitosa.
calyptræformis.
globiformis.

The different forms of plica are commonly ushered in by prostration of strength, lassitude, erratic pains in the articulations of the hands and feet, extending to the shoulder, the spine, the back of the neck, and head. In the evening there is fever, which goes off towards morning by a viscous, adhesive, and very fetid sweat. The pulse becomes natural, and there is a remission of all the symptoms.

To these succeed convulsions, subsultus tendinum, tingling in the ears, severe headache, vertigo, pain in the orbits, pricking, and a distressing stricture in the back part of the hairy scalp. The hair becomes matted, forming masses variously twisted, like the snakes on a Gorgon's head. Sometimes it is extended into long pendulous tails, reaching the knees, or trailing on the ground. Sometimes it sticks up like the bristles of a hog. Sometimes it is rolled up into irregular masses, oppressing with their weight the head of the poor patient. Myriads of lice burrow in the midst

of these tufts of hair, and large quantities of branny scales are seen at their roots.

The disease is not confined to the hairy scalp, but affects other parts of the body where hairs are found.

Often the nails of the fingers and toes are the seat of the disease, particularly in persons who are bald. They become yellow, livid, black, like goats' horns, or bent like the claws of beasts of prey.

These hideous appearances are occasioned and maintained by a viscous exudation from the pores of the skin, and even from the hairs themselves, as proved by microscopic observations. The smell is very offensive, like that of rotten cheese, though NISKOUSKI records a case of a young lady, in whom the odour resembled that of ambergris.

Those having brown hair are the most subject, though no complexion seems to be exempt.

It seems not always confined to the surface of the body, but is occasionally found to be complicated with affections of the internal organs, as apoplexies, dropsies, dysenteries, consumption.

Respecting the causes and specific nature of Plica, little is known.

In the treatment of the disease, according to ALIBERT, we must watch the progress. The first indication is to clear the primæ viæ, and determine to the skin, and is generally, successfully accomplished by the preparations of antimony. When the disease is attended with a free discharge of the peculiar viscous matter which mats the hair, mild sudorifics and demulcents are recommended. If the patient be affected with fever, this must be moderated, and if the strength fail, tonics and a generous diet will be required.

Considering the disease as being often a critical effort, he seems averse to the early removal of the hair. Mild fomentations and ablutions are directed to allay irritation, and if the disease be accompanied by severe affections of important organs, the determination to the surface is to be invited by blisters, burning of moxa, or the application of the acrid matter discharged. We must attempt to excite the external disease in its full force.

HERPES.

According to the system of ALIBERT, this comprehends numerous morbid affections of the skin, appearing as scales, crusts,

pustules, phlyctenæ, rhagades, and ulcers, modified by the age, sex, temperament, habits, and condition in life. Hence it is naturally divided into several species.

1. *Herpes furfuraceus*, consisting of minute exfoliations of the cuticle like meal or bran, diffused, or collected in patches firmly adhering to the skin, or easily detached, of which our author makes two varieties, H. F. *volitans*, observing no regular figure, and H. F. *circinatus*, collected in figured patches, slightly elevated above the skin. In this variety the scales adhere firmly to the skin, and, on being removed, the spot is red and shining. The patient is often tormented with considerable pruritus, proportioned to the sensibility of the part, especially when exposed to the heat of the fire, or when warm in bed. There is, however, for the most part, no disturbance of the general system.

Six cases are given in illustration, showing that the disease is often spontaneous, though on other occasions it may be traced to violent affections of the mind.

2. *Herpes squamosus*, consisting of exfoliations of the cuticle, much larger than in the preceding species. The scales can be easily detached by the finger nail, and often fall off spontaneously.

H. S. *madidans*. In this variety, which is very common, there is a continual exudation from the skin, soiling and stiffening the linen. It affects most commonly the ears, nose, mouth, and genitals, but sometimes it occupies the whole surface of the body, occasioning intolerable distress.

H. S. *orbicularis* appears concentric in circular patches of dry scales, that fall off and are soon renewed. Seated for the most part on the middle of the cheeks. It becomes more inflamed in certain states of the weather.

H. S. *centrifugus* attacks the palm of the hand, commencing in small circles, gradually extending from the centre to the circumference, until the whole hand is stripped of its epidermis, when the cuticle is renewed, and the disease ceases.

H. S. *lichenoides* is made up of hard, tough, white scales, like the lichens, of which it bears the name.

In the H. S. *madidans*, the skin becomes chopped. One edge of the scale loosens, while the other adheres firmly, differing in this respect from the H. S. in which the scales are detached at once. A violent pruritus usually attends this form. The integu-

ments thicken, and frequently there is œdema; the hair falls off; the surface is covered with a fetid ichor of the odour of worm eaten wood; there is hectic; the body wastes; and at length, death closes the scene.

Five cases in illustration.

3. *Herpes crustaceus* appears on different parts of the body, in yellow, white, gray, or green scabs, varying in figure and duration.

Three varieties.

H. C. *flavescens*, consisting of yellow scabs, resembling dried honey. It commonly attacks the cheek, though other parts of the body are not exempt.

H. C. *procumbens* assumes the form of stalactites found in caves. It attacks the alæ of the nose.

H. C. *muciformis* resembles the moss that grows on the roofs of houses. It affects the hands, the thigh above the knee, and the face. It commences by a minute vesicle on an inflamed base, not easily to be distinguished from the vaccine of the fourth or fifth day. The further growth for some time is very slow; but having acquired a certain volume, it increases rapidly. Eight cases are given in illustration of this species of herpes.

4. *Herpes exedens* appears on different parts of the body in pustules or corroding ulcers. The ravages are often not confined to the skin, but extend to the muscles, cartilages, and even bones.

Three varieties.

H. E. idiopathicus.
scrophulosus.
syphiliticus.

Dull pain in the part, accompanied by itching. The skin becomes inflamed and swollen, in the centre of which a small pustule appears, which soon breaks and discharges a corrosive ichor that contributes to increase the disease. This matter frequently concretes into a scab that covers the ulcer. If the scab fall off, it is succeeded by another. The disease is for the most part confined to a spot, as the nose, lip, &c. which it generally destroys. The lymphatic glands are enlarged. Where the ravages have been extensive, there is hectic fever, and diarrhœa, the precursors of a fatal issue. The disease is confined neither to sex nor age.

Eight cases are given in illustration. ALIBERT states that he has seen eight hundred cases of the disease.

5. *Herpes pustulosus* appears on one or many parts of the body, in pustules, varying in size, more or less contiguous. The matter contained in these pustules becomes dry, and forms scales or thin scabs which fall off and leave a reddish spot or mark.

Four varieties.

H. P. *mentagra*, affecting the chin, and particularly troublesome in men.

H. P. *gutta rosea*, occupying the nose, cheeks and forehead, particularly observable in persons addicted to the use of ardent spirits.

H. P. *miliaris*, composed of small white pimples like millet. Young girls about the age of puberty are very liable to it.

H. P. *disseminatus*, composed of large, red pimples, affecting the breast, back of the shoulders, and sometimes the face, attended with a burning heat. They are very obstinate, and leave a stain on the skin of a dirty red colour.

The disease is connected with derangement of the chylopoietic viscera; and, in females, the condition of the uterus exerts considerable influence. Eight cases in illustration.

6. *Herpes phlycenodes*, consists of minute phlyctenæ or vesicles, containing a limpid fluid or serosity, which, on drying, form reddish incrustations, as in erysipelas. Often there are several crops. Two varieties.

H. *ph. confluens*, consists of numerous confluent vesicles, affecting not only the skin, but the mouth, œsophagus, stomach, and intestines—sometimes a fatal disease. A sense of burning is a constant attendant.

Grief, fatigue, and vicissitudes of temperature are mentioned as the causes.

H. *ph. zonæformis*, consists of small round vesicles, collected in clusters, extending like a zone, from the spine to the linea alba, occupying one side. The eruption is accompanied by considerable itching, loss of appetite, restlessness, and fever. Six cases in illustration.

7. Herpes *erythemoides*, consists in red, inflamed elevations of the skin, which finally terminate in thin desquamation of the cuticle, as in erythema; much increased by scratching, to which the

patient is compelled by the continual itching. Heat of weather, salted meat, ardent spirits, and various irritating articles of diet frequently occasion it. Some are of the size of pins heads, others exceed half an inch in diameter, and resemble the stinging of nettles. It is generally preceded by disturbance of the digestive organs, headach, and sometimes fever, which usually subside on the appearance of the eruption. Two cases in illustration.

In the treatment, peculiar attention must be paid to the specific character of the disease, likewise to the period as relating to the rise, progress, and decline. The influence of climate and season must not be overlooked. The temperament, and peculiar texture of the skin in the individual affected, must be carefully examined, and the remedies are to be selected and administered according to the knowledge thus obtained.

Of the means to be administered internally, the preparations of mercury and sulphur appear to be the most efficacious. With the sulphuret of potass, ALIBERT says he has been very successful. The remedy is, however, forbidden in persons who are subject to the gout and epilepsy.

Sulphur is likewise necessary in those of a scrofulous habit, and in females whose milk has been suddenly dried up.

Purgatives, bloodletting, and a restricted diet may be required. Salted meat, spices, and ardent spirits have been observed to aggravate the disease.

The disease being seated in the skin, may be brought under the immediate agency of external or topical means. When the skin is red and inflamed, emolients will be found beneficial. Under this head, are included the warm bath, ablutions with mucilaginous and farinaceous decoctions, and the vapour of water, either simple, or impregnated with various medicinal articles.

Excepting in the conditions already noticed, no remedy, according to ALIBERT, is better adapted to the topical treatment of herpes than sulphur, either mixed with lard, in the form of ointment, or in combination with potass or soda, when it forms a compound of ready solution in water, imitating the mineral waters of Bareges and Tivoli, which have long enjoyed great celebrity in removing these defedations of the skin.

The Herpes exedens generally requires the free use of caustic, as pure potass, provided the inflammatory action has been pre-

viously subdued by emolients and narcotics, as the hyosciamus, solanum nigrum.

EPHELIDES

Is applied to stains or marks, generally of a brownish colour.

1. *Ephelides lentigo.* Freckles. These are not the object of medical attention.

2. *Ephelis hepatica* appears in spots of a saffron colour, on different parts of the skin, single, or accumulated in patches, and often terminating in a slight desquamation of the cuticle. They affect the neck and sides.

Two varieties.

E. *hepatica persistens.*

fugitiva.

3. *Ephelis scorbutica*, appears in spots of a dirty yellow or brown colour, like soot. It affects the breast, back, and the outside of the arms and thighs. On some occasions it extends over the whole surface of the body.

E. *scrobutica maculata.*

variegata.

The disease is often connected with some disturbance of the digestive organs, and is relieved by purgatives and diuretics. If the liver be affected the appropriate remedies must be employed.

Frictions, the warm bath, and exercise, as favouring perspiration, have been found serviceable.

CANCROIDES,

Are fleshy excrescences, oval, or oblong, of a pale red colour, interspersed with white lines, firmly adhering to the skin, rising one or two lines above its surface. They lose their colour on pressure. There is heat, itching and lancinating pain, aggravated at night. For the most part solitary, observed between the mammæ, on the back of the arms and shoulders. Affects females more than males. Rarely admitting of spontaneous cure. All the means hitherto proposed have proved ineffectual. Extirpation by the knife, or caustic, has only tended to aggravate the disease.

LEPRA

Comprehends several species.

Lepra squamosa appears in the form of circular scales, surrounded by a red margin; hard, warty, and rough to the touch,

with fissures or rhagades of a gray or ash colour, like the bark of a tree, or the scales of fish.

Three varieties.

1. *L. sq. Alphos, vel Leuce.* The zaraul of the Hebrews, consists of white scales, spread on different parts of the body, collected in patches, with a red margin.

L. sq. *nigra*, having dark coloured scales, the margin livid or purple, the scales are harder, and more shining; connected with scurvy.

L. sq. *tyria*, having large, firm scales, like fish or serpents. The parts covered with these scales are often moistened with a purulent discharge.

The Lepra is attended with pruritus, increased by warmth. It commences in a small scale, seated on an inflamed base, which falling off, is succeeded by a fresh crop, more extended, and often presenting a circular edge, elevated above the level of the centre. On the removal of the scales, there is a slight depression of a smooth shining red. Occasionally the nails are affected, and fall off. The hair of the head and eyeballs changes its colour and falls off. It is affected by the weather, and is generally most severe in the spring.

Three cases in illustration.

2. Lepra *crustacea*, appears in rough, furrowed, tuberculous scabs, with chops. On falling off, they leave indelible cicatrices.

Four varieties.

Lep. crust. *vulgaris*, consisting of pustules, which are converted into hard, rough scabs, of a greenish yellow colour, acquiring often a dark colour.

Lep. crust. *scorbutica* appears in rough, ash coloured scabs, marked with deep furrows, extending to the skin; occupying the metacarpus and metatarsus; sometimes like a collar round the neck. The accompanying symptoms, are shaking of the head, burning of the mouth, aphthæ, weakness of the stomach, lassitude, great sensibility of heat and cold.

Lep. crust. *malum mortuum*, appears in pustules, covered with large scabs, deeply furrowed, tuberculous, of a greenish yellow colour, leaving cicatrices. Affects the arms, thighs and legs, the face and breast; accompanied by languor, marasmus, and, in young

persons, preventing the growth and natural development of the system.

Lep. crust. *syphilitica*, more fully noticed under the head of syphilis.

Three cases in illustration.

3. Lepra *tuberculosa*. The skin becomes thick, hard, uneven, and rough, like the hide of an elephant. The hair becomes white, and falls off. The limbs loose their sensibility.

Lep. tuber. *leontiasis*. The lips are thickened, the nostrils extended, the forehead hideously wrinkled, the voice hoarse, the ears enlarged, the eyes red, inflamed, and glaring.

Lep. tuber. *elephantiasis*. The skin of the lower extremities is thrown into thick hard lumps of a grayish colour, like the hide of the elephant. The feet, legs and thighs, acquire an enormous size. This swelling is elastic. The surface is covered with warts, that, suppurating, degenerate into foul, corroding ulcers, destroying even the cartilages and bones. These ulcers are of a dirty red colour, their edges elevated, hard, and uneven, livid or bluish. The discharge resembles the washings of flesh. Sphacelus affects the hands and feet, destroying the fingers and toes. Languor, lassitude, depraved appetite, loathing of food, or an inordinate desire, insatiable thirst, urine sometimes turbid, at other times clear. Dyspnœa; hectic; coliquative diarrhœa. Bloody stools have been observed to attend the progress of the disease.

Five cases.

Lepra is hereditary. It abounds in damp, marshy situations; more especially in warm climates, though it is frequently seen in the frozen regions of the north. It is often brought on by bad diet. Casal, who observed the disease in the province of Asturia, considered it as produced by a diet of Indian corn. Filth, and the want of personal cleanliness must be enumerated among the causes. Alibert deems it not contagious.

Considering the character of the different forms of Lepra, the treatment is necessarily various. The scaly forms have generally yielded to baths, either simple or modified with farinaceous and emollient decoctions, or impregnated with sulphur. In the Elephantiasis, tonics, and among these, arsenic have been recommended.

FRAMBŒSIA BATINODES.

1. *Frambœsia batinodes*.—Yaws or sibbens, consists of granu-

lated excrescences, resembling raspberries, and discharging a yellowish green ichor, viscid, and very offensive: they often degenerate into foul ulcers, with livid flaccid granulations.

2. Frambœsia *mycoides* appears in oval fungous tumours on the face, limbs, thorax and abdomen. They resemble mushrooms, and burst like rotten fruit, discharging an offensive ichor. Lassitude, dull pain in the head, loss of appetite, restlessness and fever, accompany the eruption. In the farther progress of the disease, the bones become painful, spongy and carious.

The yaws attacks chiefly the negroes, affects them but once, and pursues a determinate course.

The duration and danger are in proportion to the extent of the eruption.

In the treatment, mercury, and the decoctions of guaiacum, sarsaparilla, and sassafras, have been found most beneficial: to the ulcers, various escharotics, but particularly the red oxide of mercury are directed.

1. ICTHYOSIS NITIDA

consists of thin, hard, elastic scales, of a pearl or gray colour.

I. N. *cyprina*, hard, white scales, like those of the carp.

I. N. serpentina, thin, soft scales, like the slough of a snake. It affects old people.

The Icthyosis nitida attacks those parts where the skin is naturally thickest; as the knees, elbows, skin outside of the thighs and arms: it is not accompanied by itching, or any uneasiness: digestion remains unimpaired.

2. Icthyosis *cornea*, appears in dark coloured scales, having the consistence and hardness of horn; sometimes flat or conical, numerous and associated; at other times, few, cylindrical like the spur of the cock, or the horns of sheep.

I. cor. *spinosa*—of this kind, only one case has been recorded.

I. cor. *ungulata*, like the claw or spur of the cock.

I. cor. *arietena*, resembles the ram's horn.

3. Icthyosis *pellagra*.—The skin is withered, wrinkled, and covered with scales. The disease is accompanied by prostration of strength, and derangement of the intellectual faculties.

I. pel. *vulgaris*, in which the skin is affected, without assuming any particular figure.

I. pel. *orbicularis*, the scales are arranged in patches, as in

Herpes furfuraceus circinatus, and is less affected by the seasons than the preceding variety.

The causes leading to the production of Icthyosis, have not been developed with any degree of precision. The Icthyosis pellagra being endemic among the inhabitants of the Milanese, and affecting more especially the labouring classes during the summer months, the humidity of a marshy and irrigated country, exposure to the rays of an ardent sun, and an unwholesome diet, have been considered by some writers, as generating this distressing disease.

The treatment, except of the Icthyosis pellagra, does not appear to have attracted the attention of medical men. In the Icthyosis pellagra, the chief reliance has been in a change of air and improved diet, and the free use of tepid baths: Albera extols cold water drunken freely.

SYPHILIS.

1. Syphilis Pustulosa, appears in pustules, which, on drying, leave red or copper coloured spots.

S. pust. *squamosa vel compressa*, is scaly, and of a flattened form: the edges hard, elevated, and of a red colour: it is by the copper colour that it is to be distinguished from herpes.

S. pust. *crustacea*. This is a severer form; it assumes the aspect of lepra, whence the name of lepra venerea. The pustules vary in form, volume, extent and colour of their crusts; presenting a hideous appearance: they give rise to large suppurations. When on the forehead, they constitute the corona veneris.

S. pust. *racemiformis*, not flattened, having neither scales nor crusts: hard, round, and of the size of a pea, oblong or oval; the surfaces rough like chagreen.

S. pust. *cerasiformis*, appears in minute, dark coloured elevations, like cedar berries, grouped or distinct.

S. pust. *lentiformis*, of a brown colour, and flattened like lentils.

S. pust. *miliaris*, rises in small pimples, having a small reddish areola of a copper colour.

S. pust. *urticata*, resembles the stinging of nettles.

S. pust. *serpiginosa*, often figured like circles, or letters. The divisions and descriptions are very unsatisfactory. It is true, the expressions of Alibert are not given at full length, yet every thing treated, appertaining to the several varieties, has been extracted: and what adds to the want of precision, is the acknow-

ledgment on his part, that many eruptions possessing the character which he considers as syphilitic, often appear after claps, or even when there can be no suspicion of a venereal taint. Seven cases in illustration.

2. Syphilis vegetans.—This comprehends the various forms of venereal warts, or excrescences.

Syphil. veget. *frambœsia.*
cauliflora.
crista galli.
porriformis.
verrucosa.
condyloma. Four cases in illustration.

3. Syphilis exulcerans, appears on the integuments, in the form of deep excavated ulcers, as if scooped out with a sharp instrument; the edges red and callous; in figure round, oblong, or triangular: they affect more especially the mucous membrane, and very frequently the legs. Three varieties.

S. e. *serpiginosa.* This is a superficial ulcer, extending over and destroying a great portion of skin.

S. e. *persistens.* This is insulated and very deep; destroying the integuments down to the bone.

S. e. *fissatu*, appears in fissures or chops, and is generally seen about the anus.

On the phenomena which characterize the progress of syphilis.

The observations are confined to the syphilitic affections of the skin. In general the syphilitic pustules appear in scattered spots of the size of a pea. They gradually increase in volume, and become the base of projecting pyramidal or conical scabs, blended with sordid phagedenic ulcers. This eruption is preceded by erratic pains in the limbs. It often resembles the petechiæ of scurvy, and soon rises above the level of the skin. These eminences become covered with scabs of irregular figure, and on the desquamation of these scabs there is a deep excavation of the skin. In this stage the patient is exempt from pruritus, sleeps well, and enjoys a good appetite.

Sometimes the eruption resembles herpes, and so closely that the practitioner may be easily mistaken, unless guided by the sore throat, ulceration of the tonsils, and chancres, which declare the

true venereal character. They may be distinguished by the copper colour, the well defined border, more elevated margin than in herpes, and by the absence of violent itching.

The eruption occasionally appears in tubercles gradually increasing in size, preserving the natural colour of the skin, or assuming a brown or reddish hue, resembling small cherries or cedar berries.

Often it is characterized by small pustules flattened like lentils, or acuminated with an inflammatory base like miliary eruptions, or it is vesicular like the itch. Many patients appear as if stung with nettles; the eruption is at first of a bright red, but becomes paler with age, and is frequently preceded by fever.

But the most severe and obstinate form of syphilis affecting the skin, is a serpiginous eruption that spreads over the whole surface in long spirals or entire circles. These frequently degenerate into ulcers that baffle all the efforts of the healing art, to the disappointment of the patient and the practitioner.

In some persons, the skin presents a number of violet spots, evanescent and not elevated. Cold seems to develop them, and they disappear when the patient is warm. They are accompanied often by nocturnal pains and exotoses, which ALIBERT considers as sufficiently proving their syphilitic origin.

Of the excrescences we discover no information additional to that already given, unless it be to state, that besides the perineum, anus, and genitals usually noticed as their seat, ALIBERT has observed such excrescences in the mouth.

In the further description he gives of syphilitic eruptions, we perceive nothing to add to what we have already extracted, unless it is to notice the remark made by ALIBERT, that syphilis is frequently complicated with scurvy. He passes unnoticed its combination with scrofula, to which, according to him, it bears so strong a resemblance.

He is an advocate of the dormant existence of syphilis, and he thus explains, that after repeated courses of mercury the disease may be developed and successfully treated. When on the diagnosis, he states that it may be distinguished from scrofula, that the latter rarely affects the genitals, nor the inguinal glands; that the eruptions are less diversified, and more irregular in appear-

ance, the ulcers not so deep, the excrescences not so distinct, and that the pains in the bones are unknown in scrofula.

In support of the opinion that the disease may be communicated to the offspring in the act of generation, he cites the case of a child whose father was infected, in whom the virus did not show itself until the child was ten years old, when it destroyed the septum narium; likewise the case of a girl aged thirteen, born of an infected mother.

Nearly all these complaints, he says, yield to the power of mercury. Of the various preparations of this metal, he prefers the oxymuriate, and states, that when this salt is properly administered, especially in conjunction with powerful sudorifics, it rarely happens that the most inveterate symptoms do not vanish. He remarks that we must not relax in its use, or be deterred by the apparent obstinacy of the disease. The various symptoms may be aggravated at first, though the remedy has been most methodically administered. But this apparent aggravation is only temporary; it is produced by the action of the mercury upon the irritability of the system; and if this action occasionally exasperates the disease, it generally finishes by destroying its violence.

Mild nutriment, suitable repose, or moderate exercise, change of air, and an exemption from all violent emotions, may materially contribute to the rapidity of the cure. He found great benefit from the exhibition of opium with mercury; it served to moderate the activity without impairing the virtues of the mineral. When the irritability of the stomach prevented the exhibition of mercury by the mouth, he found mercurial enemata very beneficial, and on some occasions sufficient to effect the cure. He lays down no particular rules for the mercurial treatment, the quantity to be administered depending on the idiosyncracy of the patient, and the inveteracy of the disease. He, however, avoids deep salivations, pushing the remedy until it excites some degree of fever.

This direction is somewhat at variance with the aphorisms expressed in a succeeding section, where, speaking of the efficacy of mercurial inunctions, he states, "It is a fact fully established at the Hospital of St. Louis, and which ought to be recorded in every treatise on the subject, that this incomparable remedy never acts more effectually upon the disease, than when it spares the constitution, and excites no disturbance in the animal functions."

SCROFULA.

1. Scrofula vulgaris, characterized by swelling, hardness, and prominence of the lymphatic glands, especially at the angles of the lower jaw; by the tumefaction of the upper lip; by the enlargement and caries of the joints, by scales, scabs and ulcerations of the skin, by soft excrescences. Five varieties.

S. v. *glandulosa.* The cervical and axillary glands are particularly prone to enlargement in the scrofulous diathesis, and constitute so many prominences under the skin. Sometimes they remain stationary, sometimes they suppurate and form abscesses of more or less extent. Occasionally they become cancerous.

S. v. *articularis.* The hands, feet, knees, and hip, are the more usual seats of the disease. It affects principally those under puberty, though it is occasionally seen in elderly persons. It holds the next rank in frequency.

S. v. *cutanea.* When scrofula attacks the skin, it resembles, in many respects, herpes and syphilis, presenting a variety of forms. ALIBERT considers himself as the first who has observed one of these subvarieties. He describes it as rendering the skin very porous, then there appears a yellow spot, succeeded by a thin faint cicatrix, of the same extent, and of a pearly hue. The skin often becomes chopped and scaly, as in herpes; sometimes an ichor exhales that concretes into thick scabs of a greenish or yellow colour. On some occasions, the pustules resemble those of syphilis, but are less prominent. These pustules are for the most part arranged in circles, whose areas are continually increasing, whence he denominates them centrifugal; and we daily see individuals greatly disfigured by the destruction of the nose and lips.

S. v. *cellulosa*, appears on the lower extremities, or on any other part of the body, in moist excrescences resembling raspberries or mushrooms, as in syphilis or herpes tuberculosa. To this variety may be referred certain extraordinary accumulations of fat.

S. v. *vasculosa.* Sometimes the skin, particularly of the face, is the seat of tubercula hæmatodes. They are indolent to the touch, but when imprudently irritated, they become cancerous. ALIBERT states that he treated one successfully by the actual cautery.

Scrofula is a very common disease in cities, or wherever there

is a crowded population. It often attacks persons of a robust form, and who, from the freshness of complexion and general plumpness, might be supposed always to enjoy uninterrupted good health. When examined critically, the complexion will be found not to be deep or permanent. The sclerotica has a bluish tint; the pupil is dilated; the hair soft and light coloured. Persons affected with scrofula frequently display an extraordinary precocity, undaunted courage, and, when not properly disciplined, are prone to violent fits of passion. In scrofulous persons, ALIBERT has observed an acescent odour, like that of fresh meat in the market. Seven cases in illustration.

2. Scrofula endemica appears, like the preceding species, in tumefactions of the glands, in scales, scabs, ulcers, and excrescences, but accompanied by a sallow dirty colour of the skin, atrophy, and a debasement of all the intellectual faculties. Three varieties.

S. e. *rheumatica* is most frequent in moist, unhealthy situations, on the borders of the sea, lakes and marshes. It attacks principally boatmen, fishermen, and shepherds, who sleep in the open air.

S. e. *rachetica*. Black and carious teeth, the second set imperfect; curvature of the spine, swelling of the joints, mark this form.

S. e. *cretinica*, accompanied by an enlargement of the thyroid gland. Six cases in illustration.

The causes leading to the production of scrofula, are, cold combined with moisture, want of cleanliness, long confinement in unventilated apartments, crude and indigestible food. In the opinion of ALIBERT, it is frequently hereditary; but the most fruitful source of the disease he pronounces to be the prevalence of a syphilitic taint, which he thinks may be propagated through several generations. He remarks that the disease is most frequently developed early in the spring, abates or disappears during the warmth of summer, and is aggravated or renewed on the approach of winter.

For the cure he recommends warm clothing, or suitable diet, consisting of food that is easy of digestion, active exercise in the open air, frequent ablutions, and bathing, the exhibition of tonics, particularly the preparations of iron; and from its alliance to syphilis, the oxymuriate of mercury has been with him a favourite remedy. Frictions, various medicated plasters, supposed to excite the action of the absorbents, issues, setons, and burning with moxa, are likewise extolled. The excision of tumours, and

the amputation of scrofulous limbs, have been practised with notable advantage.

ARTICLE IX.—"*Thoughts on Medical Education, and a Plan for its Improvement, addressed to the Council of the University of London.* Dictu Necessaria, Plin. London, 1826."

"*Projet de Loi présenté aux Chambres dans la Séance du* 14 *Fevrier*, 1825, *par S. E. le Ministre de l'Interieur, sur les Ecoles Secondaires de Medicine, les Chambres de discipline et les Eaux minerales artificielles.*"

The remark so frequently made on the comparative neglect of the science of education in a general acceptation, while other sciences and arts boast of so many cultivators, applies with full force to Medical Education. Among the numerous tomes which are annually sent forth to the public, on all the varieties of disease, and their methods of treatment, how few, if any, exhibit, on the part of their authors, a desire to establish rules and principles for the guidance of a youth who proposes to study medicine. If we except some vague hints in an occasional discourse, introductory or valedictory, pronounced by a professor in a Medical College, or an oration, delivered before a Medical Society, we meet with nothing, absolutely nothing to guide the beginner in a course, on the successful prosecution of which, depends—we will not say his own fame, that is of minor value, but the comfort, health, and lives of so many of his fellow creatures.

The capital error consists in supposing that a youth, who begins the study of medicine, brings with him a mind previously trained to habits of thinking, which he has but to exercise on the book put into his hands by the physician, under whose superintendence he is placed. Unreasonable as is such a supposition, when we reflect on the age of the student, even though his opportunities for general instruction may have been previously great, we are bound, in common charity, to admit of its being generally entertained, since no other excuse can be validly adduced in justification of the slight ties which bind together pupil and preceptor. The former is left to ramble over a few works of equivocal value, though, perhaps, of some reputation, while the latter contents

himself with an occasional question, the bearing of which is often not perceived. More usually some book on Materia Medica is presented to the student, and he is at once bewildered by the conflecting testimonies adduced respecting the effects of a drug, which, after all, he often does not see for months, or even years. Having gone through this, as the phrase is, he begins to read on, not to learn, anatomy, and as in the country, the actual bodily illustrations of this branch are few and imperfect, he soon proclaims it to be a dry study, and the reading about it to be a great bore. Thus he is hurried, or left himself, to ramble from subject to subject, gleaning very imperfect notions of each one, and rarely taught the harmonious connexion, and philosophical concordance among them all. No wonder, then, that conscious as he is of being deficient in the principles of the healing art, he should readily assent, or, at the most, timorously object to the aspersions cast on it by every captious pretender to a knowledge of what he is pleased to call the exact sciences. Now we must needs think, that the much more natural plan, that conformable to nature and enforced by the closest analogies, would be to point out to the beginning student, the extensive field which he has to go over, the various land marks that are first to arrest his attention, the thickets he is to avoid, what path to follow, where flowers and fruit, and where thorns will meet his eye. Apprize him first of the nobleness of the science, among the votaries of which he is about to enlist himself. Prepare him for arduous study, and a weary round of perilous, though godlike duty, by the perusal of the biographies of the distinguished physicians and medical teachers, who, at first, unknowing and unknown, chilled by poverty, and harassed by envy, did, after all, rise to the heights of fame, honour, and imperishable renown. His affections thus enlisted, we may next acquaint him with the duties and qualifications of a physician, and with the arguments derived from man in health and in a state of nature, in favour of certainty in medicine, and, finally, warn him of the necessity of close and continued observation, and of the impediments which have retarded the advancement of medicine. But, alas! how few physicians, even hint at, much more insist on their students going through this course, of what may be termed preliminary study. Yet, what more encouraging to the young mind than the biographies of such men as Pare, Baglivi, Sydenham,

Boerhaave and Cullen; or more necessary than an attentive perusal of Gregory's Lectures on the Duties and Qualifications of a Physician, or more instructive than the greater part of the first book of Baglivi's works, in which the various obstacles to sound medical philosophy are detailed in such a masterly manner. How few of our medical brethren can exhibit on the shelves of their library, Cabanis on Certainty in Medicine, though it has been, thanks to the industry of an intelligent and estimable friend, for some years in an English dress.

We cease to be surprised that a youth, who, after a desultory reading for one or two years in the country, goes to a city to attend the lectures at some Medical College, should be so little prepared to appreciate the value and necessity of sound logic, and adherence to principles: and we pardon the lecturer, who, conscious of the imperfect intellectual training of the youthful assembly by which he is surrounded, usually prefers being the echo of popular opinions and received modes of practice, to an exposition of the philosophical principles of the science of medicine, and ample commentaries on these principles or institutes. Nor can we harshly censure, though we must, nevertheless, grieve at the disinclination too frequently manifested, by those who have the direction of Collegiate Instruction in medicine, to multiply within the same sphere, the means of learning, by increasing the number of branches to be taught. When we have urged the necessity of teaching the philosophy of the subject, concurrently with the facts and details on which it is founded, we have been told, and, as we believe, in a spirit of sincerity and disinterestedness, that the young men are not, in general, prepared by their preliminary education or habits of thought, for duly understanding and appreciating such an extension of medical education. From this view of the question we would be led to consider the evil as truly of a radical nature, and beyond the remedial control of medical teachers and physicians. On a fuller, and more practical system of elementary education we are to rest our hopes—to good Academies and Universities for teaching the languages, philosophy and the belles lettres, we must look as the nurseries, from which our Medical Colleges are to be supplied with young men, prepared for being benefitted by, and even exacting, the most ample systems of medical instruction. But, is the actual evil of such magnitude, as some, in their fears, have

suggested? Is the deficiency of mental endowments so great or general in the youths, who, either at their own desire, or, at the suggestion of their parents or guardians, offer themselves as students of medicine, that the physician has no power of option? Our belief is negative to these questions;—on the contrary, we are of opinion that the numbers would still be great, if, not only a good moral character, but also the possession of certain attainments, were insisted on as a prerequisite for a youth's being admitted a student of medicine, in the office of a practising physician. As regards a Collegiate course in medicine, we would ask, does it argue sound policy, or a knowledge of human nature, to keep, or bring down the system of Medical Education to a level with the real or presumed ignorance or indolence of the mass of the population, rather than raise the standard of proficiency, and, thereby, conduce to a generous emulation, a thirst for honourable distinction in the more industrious and enlightened, whose numbers, it may be added, will always increase under this latter order of things. Why should persons give into an error, the like of which, in legislation, meets with their unqualified censure, as when they hear the advocates of despotism and intolerance, contend that a people are not to be placed under a government which insures to them civil and religious rights, until they shall be educated and enlightened enough to be able to appreciate fully, the blessings of freedom.

But, before we venture to propose innovations at home, prudence requires of us to learn what has been done abroad; and to know what is to serve as an example worthy of imitation, and what as an evil to be avoided. That our readers may see we have not been inattentive to their interests in this matter, we shall lay before them, with all suitable conciseness, the schemes of medical instruction pursued in Germany, France, Italy, and Great Britain and Ireland, and the requisites for graduation in the medical schools of those countries; not omitting occasional references to the practice pursued among ourselves.

First, then, *of the preliminary qualifications to be possessed by a youth, who desires to study medicine.*

In Austria, before a youth can be admitted as a student of medicine in a University, it is necessary that the candidate should lay before the director of Medical study, certificates of his having studied Philosophy for three years in a Lyceum. Under Philoso-

phy are comprehended the Latin and Greek languages, History, Mathematics, Natural and Moral Philosophy, and Religion.

In the Protestant Universities of Germany, as in that of Gottingen, no questions are asked, nor requisites demanded of the youth who wishes to study medicine.

In France, he must be regularly enrolled in one of three Medical Faculties of that country, viz: Paris, Strasburgh, Montpelier: but prior to this act of enrolment, he is required to exhibit, 1. a register of his birth; 2. a certificate of good conduct from the mayor of his arrondissement, and signed by the subprefect of the department; 3. a certificate of his having gone through a complete course of study in one of the Lyceums. If these cannot be furnished, the applicant is to be subjected to a preliminary examination, for the purpose of ascertaining whether he has the indispensable qualifications for the study of the healing art: this point satisfactorily determined, he receives a note, on presenting which, he is admitted to have his name enrolled.

In England, we are told by the author of the "Thoughts," &c. that,

"When a parent determines to educate his son for the practice of medicine, the boy is taken from school and, without any other preliminary education than a very slender proficiency in the Latin language, perhaps a superficial knowledge of Greek and of French, and a very imperfect acquaintance with English, is bound apprentice to a general practitioner." p. 3.

In the United States, it is the custom for a youth at eighteen or nineteen years of age, to commence the study of medicine under a general practitioner; that is, with one who, like all American physicians out of the cities, practises physic, surgery and midwifery, and who is his own apothecary. It is seldom that any questions are asked of the youthful applicant, respecting his preliminary education; or, if asked, they very rarely influence the conduct of the physician. Hence, not only are they admitted as students, who have received a regular academical education, but others, who have become weary of agriculture, or who have found attendance in a shop or store, too irksome.

Of the qualifications demanded of a student of medicine, before he can become a candidate for a degree; and of the examinations to be

undergone, before he is authorized to practise the various branches of medicine.

In the Austrian empire, there are two German Universities, Vienna and Prague; and five Lyceums, viz: Lemburg, Gratz, Olmutz, Klagenfurt and Lentz. The difference between the Universities and the Lyceums, so far as concerns medical study, is, that surgery alone is taught in the latter, both medicine and surgery in the former.

The school year in Vienna begins with November, and ends with August. The course of medical study extends to five years, and comprehends lectures on Introduction to Medico-Chirurgical study, Natural History, Anatomy, Botany, Physiology, General Chemistry, General Pathology and Therapeutics, Midwifery, Materia Medica, General and Special Pathology of External diseases, Ophthalmalogy. Demonstration of Surgical Instruments and Bandages, Special Therapeutics of Internal diseases, Clinic for Internal diseases, Veterinary Medicine, Medical Jurisprudence, and Medical Police.

These branches are taught in the order of time, as above enumerated: the students are not required to attend any of them two years, except those on Special Therapeutics for Internal diseases, and Clinic for Internal diseases, in the fourth and fifth years of the medical course.

The students of Medicine are in Vienna distinguished from the students of Surgery.

The former are not obliged to attend the lectures on Practical Surgery, and on Practical Ophthalmalogy.

The extraordinary lectures, as they are accounted, are those on the diseases of Women and Children, Philosophical and Physical knowledge necessary for Surgeons, Duties of those who attend the sick. These last are delivered on Sunday evenings. The lectures on Physiology, Materia Medica, General Pathology and Therapeutics, and Special Therapeutics for Internal diseases, are given in Latin; the others are in German. The students of Practical Anatomy carry on their dissections in the University. Besides the public lectures, several of the professors in the University of Vienna give occasional *Privatissima*. By the special order of government, foreigners only are allowed to take advan-

tage of these private courses. The number of students admitted to a *Privatissimum*, is generally six.

Examinations. In all the public courses of medicine and surgery, an examination of the enrolled students is held by the several professors every half year, in presence of one or more of the other office bearers of the University.

The candidate, prior to being admitted to examination for a degree in medicine, must produce certificates of having acquitted himself respectably in three semestral examinations, of having completed his fifth year of study, and of having publicly treated, within the last year, two patients in the clinic for internal diseases; the cases of which patients, he must at the same time present to the faculty, written in Latin.

He who aspires to the rank of *Magsister Chirurgiæ*, a rank analogous to that of member of one of the British colleges of surgeons, is obliged to follow nearly the same course of study, as the candidate for a degree in medicine.

The case is different, in regard to the common, civil and country surgeons, as they are called; they study for only two years; and so far from being required, are scarcely admitted to attend the lectures on Therapeutics and the Clinic, or the lectures on Physiology, Materia Medica, and General Pathology and Therapeutics. Neither in Austria, nor in any part of Germany, is this class of surgeons respectable: they are inferior to the *Officiers de Santé* of France, and execute at once, the duties of barbers and surgeons.

One of the public examinations for the degree of Master in Surgery, consists in the performance of two operations on the dead body: the operations are determined by lot. The candidate describes the surgical anatomy of the parts, lays down the indications for the operations, performs them upon the dead body which is before him, and applies the proper bandages.

Degrees are granted by the University of Vienna, in Ophthalmalogy: Doctors in Medicine or Surgery are considered as having taken this degree; but no one else can publicly practice as an oculist in the Austrian states, who has not attended the lectures of the Professor of Ophthalmalogy, and undergone an examination by him on the diseases of the eye.

The state of the profession throughout Austria, corresponds exactly with the provision made by the government for medical

and surgical education. The physicians are distinguished for their extensive and practical knowledge. Surgery, on the other hand, seems to languish.

In Vienna there is an Institution called the Josephine Academy, completely separated from all other schools. It is under the direction of the minister of war; out of whose treasury, the salaries of the professors, and all other expenses are defrayed. The number of pupils admitted, is 200; of whom, fifty receive a monthly allowance from the Academy. They are required to attend but two years; after which, they undergo a severe examination, are promoted to the degree of Doctor in Surgery, and are appointed to a regiment. The branches taught in the Academy, are Anatomy and Physiology by one professor, Chemistry and Botany by another: Therapeutics, Surgery and Midwifery, have each a professor.

In the University of Gottingen, as in all the Protestant Universities of Germany, there are no fixed regulations, in regard to the course of study to be pursued, to entitle the student to a diploma. All that is required, is, that the candidate should be able to undergo his examination. No questions are asked, respecting the duration of his studies, or the University where he has acquired his knowledge; but, in general, it requires three or four years previous study, to be able to pass the examination, which is strict and fair. It embraces all parts of Theoretical and Practical Medicine, including Botany and Chemistry, and a thesis in Latin is subsequently defended before the University.

The lectures delivered, are, 1. on the Practice of Medicine, 2. Medical Surgery, 3. Medical Clinic, 4. Physiology, 5. Natural History, 6. Surgery, 7. Diseases of the Eye, 8. Surgical Clinic, 9. Neurology, 10. Osteology and Syndesmology, 11. Anatomical Examinations, 12. Midwifery, 13. Medical Jurisprudence, 14. Special Pathology, 15. Special Therapeutics, 16. Chemistry, and General Botany, 18. Botanical Excursions, 19. Chemistry, 20. Analytic Chemistry, 21. Mineralogy, 22. Geology.

The above twenty-two courses are taught by nine professors.

Besides the public lectures, the professors are in the habit of giving private instructions to one or more pupils: these are called *Privatissima.*

The terms of study are called Semestres. The one commences

on the 26th of April, and lasts about five months: the other some time in October.

Medical Jurisprudence forms an indispensable part of study in the University of Vienna, and certain extraordinary means of promoting an accurate knowledge of this branch of medical science have been adopted by the government, which are well worthy of imitation. These consist in the publication of a code of regulations, by which all medico-judiciary inspections are to be conducted throughout the empire, and reports to be drawn up; and in the performance of inspections publicly, upon the dead bodies which are found in suspicious circumstances; and which, not being at first recognized, are carried to the dead room of the General Hospital. Due notice is given to the students at what hour such inspections are to take place; and they have thus an opportunity of seeing those regulations put in practice, which they themselves will one day be called to fulfil.*

In France, there are two classes of persons practising the healing art, both duly authorized and acknowledged by law. The first consists of Doctors in Medicine and Surgery; the second of Health Officers, (*Officiers de Santé.*)

A study of four years in one of the schools of Medicine, the honorarium, the expenses of study, an examination and reception, are the indispensable conditions exacted of every person desirous to become a Physician.

Of Inscriptions or *Certificates.* The pupils are to be enrolled or registered at each quarter of the year: for this purpose, they write in a book, kept and ruled by the director, their names, family, and baptismal age, birth place, the number of the inscription they actually take, the date of the day and year, closed by their signature. When the students desire to make use of their inscriptions, a certified copy is presented to them by the office of the administration of the School, (College.)

Of Examinations. The students who wish to undergo the examinations, are to address themselves by letter to the school in which they wish to graduate; and in support of their claim, to exhibit the certified copies of their inscriptions, taken every three

* For the account of the German Medical Schools, we are indebted to the London Quarterly Journal of Foreign Medicine and Surgery.

months for four years, either in the school, or in any other similarly governed; this request, which is to be renewed at each examination, is to be presented at the earliest meeting of the government of the school; which, after deliberation, replies and indicates the day and hour, on which the examination is to take place. The examinations are to be opened in the first and third quarters of each year: those of the first quarter will be more especially on, 1. Anatomy and Physiology, 2. Pathology and Nosology, 3. Materia Medica, Chemistry and Pharmacy: and the examinations of the third quarter on Hygeine and Legal Medicine, and on Clinic and Thesis. Each examination may be open for several candidates at a time. In anatomy, materia medica, and operations, the examinations are to be accompanied by practical exercises and demonstrations, to be made by the candidate. The examination on anatomy and physiology, shall be conducted at two sittings. In the first, the candidate shall repair to the school, and make an anatomical preparation or dissection, after it has been demanded of him. In the next sitting, he shall reply to the anatomical and physiological questions proposed to him; he shall demonstrate on the skeleton, the parts in osteology required of him.

The examination on the clinic, shall also be in two sittings. It shall consist of a series of questions proposed in advance, and drawn by lot, and which are to relate to some practical cases determined and known, and to which the candidate shall be required to reply in Latin and in writing. To this effect he is to repair to the school three hours at least, before the opening of the examination, and prepare his answer, which he shall write down in private and alone. At the appointed hour for the meeting of the examiners, he shall reply, *viva voce* and in Latin, to the interrogations made him respecting his written answer. In the clinical examination for doctor in medicine, there shall be proposed a greater number of questions on practical medicine, and a few on surgery. In the examinations for doctor in surgery, it shall run chiefly on questions of practical surgery. The candidate shall, moreover, perform operations relative to the diseases, as well of the soft, as the hard parts, on which he is interrogated; he shall also reply to some questions on internal clinic.

In the examination on materia medica, chemistry and pharmacy,

the candidate shall exhibit the medicinal substances about which he may be interrogated.

The examination on pathology, internal and external, shall be conducted in Latin, and shall occupy but one sitting; as also the examination on hygeine, and legal medicine, and medical jurisprudence, in which it shall be required of the candidate to prepare the formula of a report on a point to be indicated to him.

There shall be three examiners at the five examinations, and five examiners on the thesis, with a president. The other members of the school (college) shall, however, be invited to the examination on the practice and on the thesis; and in favour of those who are present at these meetings, there shall be established a right of precedence.

The examiners shall proceed to vote on the admission of the candidate, with white and black balls. When their decision is made, they shall prepare their report immediately afterwards. This report shall be signed by each of them. The school will deliberate on its contents, and pronounce on the reception or rejection of the candidate.

Before defending his thesis, the candidate shall deposit the manuscript at the office of the administration of the college, which, at the next session, shall appoint a commissioner to examine it. On his report made in writing, explanatory and signed, the college will admit or reject the thesis.

The commissioner appointed by the school, for the examination of the manuscript thesis, shall superintend the printing of it, which shall always be in the quarto form; he shall sign the copies. It cannot be distributed without the signature of the professor, who shall attest that the formalities prescribed by the school have been complied with. The examinations are public. Students in medicine and surgery, of the army, who shall prove that they have followed the course of medicine established in the military and naval hospitals for instruction, may make each year of study so engaged, pass for one in the special or regular school.

Pupils who can prove that they have followed the practice of the great civil hospitals, in which there is an established course of medical instruction, or the lectures established by different societies and medical associations formed in the departments, may equally be dispensed from following the four years' course in the

schools. But they shall be bound to show or exhibit testimonials of their assiduity in the hospitals, or places of instruction, during six years, and to defray the expense of inscriptions.

Of health officers, (officiers de santé.) In the capital town of each department, there shall be a jury composed of two doctors in medicine or surgery, and a commissioner, the last of whom shall be taken from the professors of one of the schools of medicine.

The jury shall annually examine candidates. The examinations are to be three in number. The candidates are to present certificates in due form of their period of study in the schools, or of practice in the hospitals, or under some physician who is a graduate. In the examination on anatomy, the candidates shall, at least, show on the skeleton the parts on which they may be questioned. In the examination on surgery, they shall exhibit the pocket instruments in use; they are also to apply bandages and dressings, and go through the manœuvres of accouchement.

In the third examination, there shall be proposed a question on generally received practice, to which a reply must be furnished in writing. The candidate is then to reply to the interrogations made to him by the jury.

Of midwives. The female students of midwifery shall be subjected to an examination by the juries, in which they shall answer the questions proposed to them, and perform on the phantom or machine the simple operations of midwifery.

Those female students of midwifery, who present themselves to the schools of medicine for a diploma, shall be subjected to two examinations, and shall be presumed to have attended, two years at least, the lectures of the Hospice of Maternity.

The above regulations for medical education in France, have been in force since the revolution. Before that time, there was a class of surgeons educated and authorized to practise by the colleges of surgery, and doctors in medicine were graduated in the nine faculties of medicine. Soon after the dissolution of these colleges and faculties, the republic found it necessary to have additional schools and facilities for supplying the armies with surgeons, and hence the law of 1794, providing for the education of health officers (*officiers de santé*) for the service of the hospitals, and more especially the military hospitals and the navy. The ample provisions for the instruction of youth in medicine and surgery,

and the examinations preparatory to their being graduated as physicians and surgeons, by the laws of 1803, ought to have removed all excuse for continuing this secondary class or *officiers de santé*, and have abolished a division, unnatural and repugnant to the character of the healing art, since there is but one medical science, and no other grades ought to be allowed, than those of talent and readiness to treat diseases skilfully.

The law, the purport of which is at the head of this article, is intended to obviate some of the inconveniences and evils growing out of the above-mentioned order of things. It abolishes the medical juries; it institutes twenty secondary schools, in which a course of instruction is to be given to those who propose becoming *officiers de santé*, midwives, or apothecaries of the second class, and it provides for their examinations, and authorizations to practise. Students may receive the degree of health officer, after four years' study in one of these secondary schools; and of druggist of the second class, after two years of study in a similar institution, and five years' apprenticeship under a druggist and apothecary.

An amendment to this law, gives it a still more beneficial tendency. By it, ten to fifteen secondary schools are to be organized, in which students are to receive primary or elementary medical instruction. Their education is then to be completed in one of the three faculties, in which three years of previous study at a secondary school, will be equivalent to two years of *inscriptions;* and having gone through the remaining period of two years, they are entitled to be candidates for a degree. Those who shall have been graduated bachelor of arts, or bachelor of sciences, may obtain the title of *doctor* of medicine; the others can only be *licentiates.* But all shall undergo the same examinations, and give proofs of the same knowledge. The *licentiates* are to have the same privilege with the doctors, of practising their profession in any part of France.

The chambers of discipline, authorized by this law in each department, are to consist of graduates in medicine or surgery, and of apothecaries of the first class. The prefect of the department, and the mayor of the town, are by right, entitled to seats in the chamber, and the former, or, in his absence, the latter, is to be regarded as president. The functions of the chambers of discipline, are, to reprimand and censure every physician, surgeon or

apothecary, who has committed any misdemeanour, tending to deprive the medical profession of public esteem and confidence. The chambers are also to apprize the proper tribunals of such acts, as shall give rise to judicial interference and inquiries according to law; but they have not by any means the right to interfere in any theoretical discussions. They are to visit, or direct visits to be made to the shops of apothecaries and herbalists, and all other places in which are made, or vended, medicinal compounds or preparations.

They shall be entrusted with the duty of examining the qualifications of midwives, in those departments in which there is neither a medical faculty nor a secondary school in medicine.

In ITALY, the laws, fixing the period of study and the branches to be taught, are various as the divisions of the Peninsula. At *Pavia*, the medical faculty of the university consists of fifteen professors, who teach the following branches. 1. Clinical Medicine and General Anatomy; 2. Clinical Surgery and the Institutes of Surgery; 3. Clinical Medicine for Surgeons; 4. Diseases of the Eyes; 5. Midwifery; 6. Anatomy; 7. Physiology; 8. Pathology and Materia Medica; 9. Medical Jurisprudence; 10. Medical Part of Surgery for the country surgeons; 11. Natural History; 12. Chemistry; 13. Botany; 14. Veterinary Medicine. The celebrated Scarpa, director of the faculty, is not included in the above list. Complaints are made that the chair of comparative anatomy has been abolished. Five years of study are required before the doctorate in medicine can be obtained. The students are examined verbally, and write a thesis.

At *Padua*, the medical faculty is composed of fifteen persons, two of whom, the director and the dean, are not professors. The thirteen branches taught are, 1. Special Therapeutics and Clinical Medicine; 2. Clinical Surgery and External Pathology; 3. Clinical Medicine for Surgeons; 4. Anatomy; 5. Physiology; 6. Internal Pathology and Materia Medica; 7. Medical Jurisprudence and Medical Police; 8. Midwifery; 9. Ophthalmalogy; 10. Botany; 11. Chemistry; 12. Natural History; 13. Comparative Anatomy and the Veterinary Art. Nine of the Professors have Adjuncts.

The period of study is for five years, and the division of subjects is as follows:

In Medicine.

First year. Human Anatomy, and Elements of Medicine and Surgery, (in Latin,) Natural History, Botany.

Second year. Anatomy and Physiology, (in Latin,) General, Animal, and Pharmaceutical Chemistry.

Third year. General Therapeutics and Materia Medica, (in Latin,) General Pathology, Elements of Surgery, Midwifery.

Fourth year. Clinical Medicine, Special Therapeutics in Latin, Veterinary Surgery.

Fifth year. Continuation of the first courses of last year, Medical Jurisprudence, Medical Police, Diseases of the Eye, &c.

In Surgery.

The course of instruction for students in surgery is the same as the above for the first three years.

Fourth year. Practical Surgery, Veterinary Surgery.

Fifth year. Practical Surgery, Medical Jurisprudence, Diseases of the Eye, Medical Police.

Provincial Surgeons.

First year. Anatomy, Physiology, Pathology, General Therapeutics, Materia Medica, and the Writing of Receipts.

Second year. Clinical Surgery, Internal Diseases, Operative Surgery, Medical Jurisprudence, Midwifery, Veterinary Surgery.

Apothecaries.

One year. Chemistry, Natural History, Botany.

Veterinary Surgeons.

First and second year. Physiology, Pathology and General Therapeutics, Theory of Agriculture, Theoretical and Practical Veterinary Surgery, Materia Medica and Writing of Receipts.

At *Turin*, the medical faculty is composed of eleven professors, six for medicine, and five for surgery.

At *Genoa*, the faculty of medicine consists of nine professors. There are three grades of medical degrees; viz. bachelor, licentiate, and doctor, granted by the university of Genoa. The course of the doctorate is of five years. Each faculty has a college of twelve doctors, who examine the candidates.

At *Bologna*, the medical faculty consists of twelve chairs, the nature of which is as follows: 1. Physiology; 2. Human Anatomy; 3. Comparative Anatomy and the preparation of parts connected with it; 4. Special Therapeutics and Internal Clinic; 5. Clinical

Surgery; 6. Pathology and Medical Jurisprudence; 7. Materia Medica; 8. Institutes of Surgery and Midwifery; 9. Natural History; 10. Botany; 11. Chemistry; 12. Pharmaceutical Chemistry.

The following is the plan of medical study prescribed by the laws of the university.

In Medicine.

FIRST YEAR. Natural History, Botany, General Chemistry, Anatomy.

SECOND YEAR. Anatomy, Physiology, Comparative Anatomy, Institutes of Surgery.

THIRD YEAR. Pathology, Clinical Medicine (as spectators,) Materia Medica, Pharmaceutical Chemistry.

FOURTH YEAR. Pathology, Clinical Medicine (as practitioners,) Medical Jurisprudence, Midwifery, Veterinary Surgery.

In Surgery.

FIRST YEAR. The same as in medicine, with the addition of Pharmaceutical Chemistry.

SECOND YEAR. Same as in medicine.

THIRD YEAR. Institutes of Surgery, Clinical Surgery (as spectators,) Materia Medica, Dissections and Operative Surgery.

FOURTH YEAR. Clinical Surgery, (as operators,) Dissections and Operative Surgery on the dead body, Legal Medicine, Midwifery, Veterinary Surgery.

Both classes of students, during the last two years, are obliged to attend the hospital daily. At the termination of the first year, they take the degree of *bachelor;* at the end of the second, that of *licentiate;* at the termination of the course, that of *doctor* in medicine or surgery. Graduates of either class, wishing to take the highest degrees in the other, must study an additional year.

The course of study prescribed for apothecaries and veterinary surgeons is only for a couple of years. The following are the classes they must attend.

Apothecaries.

FIRST YEAR. Natural History, Botany, General and Pharmaceutical Chemistry.

SECOND YEAR. The same, and Materia Medica.

Veterinary Surgeons.

FIRST YEAR. General and Pharmaceutical Chemistry, Comparative Anatomy, Elements of Veterinary Surgery.

SECOND YEAR. Botany, Physiology, Veterinary Surgery.

These two classes of students, after the first year, take the degree of bachelor, and, after the second, that of licentiate.

The mode of examination of candidates is different from that followed in other medical schools. Five professors constitute a quorum, and at the examination of an applicant for a degree, each submits to him twenty different subjects, taken from his own particular course of instruction. He draws one of these by lot, and is forthwith examined upon it, whatever it may be. The examination terminated, the professors give their votes secretly, and the number of these obtained, and the circumstances under which they are obtained, by the candidates, constitute three different modifications of the same degree which are expressed in the diplomas.

If they obtain two-thirds of the votes, they are declared *approved;* if the whole, they are declared *unanimously approved;* (*a pieni voti*) and, to express a still further praise, they are declared *honourably approved;* (*approvati con lodi.*) Those who are rejected, cannot present themselves till after another year's study.

The course of study pursued at Bologna, merits our attention the more, as its medical school is one of the most celebrated in Italy.

In Tuscany, the two Universities of Pisa and Sienna, have each a medical faculty, which is composed of six professors. The doctorate is granted in both at the end of four years; but two additional years are required for clinical study, after which the candidate is examined for license to practise, before a board of twelve physicians, twelve surgeons, and as many apothecaries, elected from the most approved practitioners of Florence, of twelve years standing.

For the following account of Medical Education in the British Empire, we are indebted to a respected friend: we shall give it in his own words.

Those exercising the healing art in Great Britain, may be ranged in three classes, as physicians, surgeons, and apothecaries. The education and qualification of these several classes are various, with some shades of difference in the respective kingdoms of ENGLAND, IRELAND and SCOTLAND.

The apothecaries constitute, in England, the most numerous

class, are often the practitioners in the first resort, and are the medical ministers to the great mass of the people. They exclusively occupy the hamlets and smaller villages, and abound in the larger towns and cities. Their sphere of action is the most extensive, embracing every circumstance in relation to the sick. To them is, in general, intrusted the duty of conducting women through the pains and perils of child birth. Performing such important offices in society, their education and qualifications are objects of interest.

Every one designed for this branch of the profession must be articled, or bound apprentice to an apothecary, until he has arrived at the age of twenty-one years. At the time his indentures are signed, it is presumed that he has acquired some knowledge of the Latin language, and his proficiency is determined by an examination in the Latin Testament.

During this apprenticeship, by the instruction of the principal, or master, and by assisting in the duties of compounding and administering medicine, and by occasionally visiting the sick, he is supposed to acquire the degree of information requisite to qualify him for the full exercise of all the offices belonging to the art.

In Scotland, the apothecaries are generally confined to the compounding of medicines. In Ireland they exercise the same functions as in England.

The surgeons may be considered as a higher order in the medical profession. Like the apothecaries, they visit the sick of every condition, perform all the operations requiring manual dexterity, attend to midwifery, and may dispense medicines. Those who intend to practice surgery, likewise serve an apprenticeship, and become members of the family of the surgeon, under whom they are placed. Their proficiency in the Latin is subjected to the same test, and it is presumed, that, by the private instruction of the principal, and by being present and assisting him in the various duties of his profession, they will be grounded in the fundamental principles of surgery. But, to insure more perfect information, they are required to attend three courses of lectures on Anatomy, and one course on Surgery, and to dissect for one winter or two courses, and to attend, during the term of one year, the surgical practice of some large hospital. Having fulfilled these conditions, and having attained the age of twenty-two years, they are examined

by certain members of the College of Surgeons. The examination is confined to the candidate's knowledge of anatomy, and to his proficiency in the manual and medicinal treatment of surgical cases. To accomplish these objects, the pupils generally resort to London, where lectures on the several branches of medicine are delivered by numerous private teachers. In this metropolis there are, likewise, many large Hospitals, affording ample opportunity for clinical instruction.

The schools of most note are at Guy's and St. Thomas', St. Bartholomew's and St. George's, or in the vicinity of those Hospitals, where lectures are delivered, on

The Theory and Practice of Medicine,
Anatomy and Physiology,
Theory and Practice of Surgery,
Chemistry and Materia Medica,
Midwifery.

Practical anatomy, with demonstrations, constitute an important branch of the instruction communicated in these schools.

The courses generally commence with the 1st of October, and continue until the close of the year. A second course of three months commences with the 1st of January; thus affording two full courses during the winter season.

These lectures, with other courses of instruction on branches connected with the healing art, are accessible to every student. But, we believe, the majority of those intending to become surgeons, confine their attention to anatomy and surgery.

The regulations in Scotland do not require a regular apprenticeship, though the custom is general. Before being licensed to practice, the individual undergoes an examination, which embraces Pharmacy, Surgery and Physic. The surgeons may be considered as constituting the great bulk of medical practitioners in Scotland.

The Dublin College of Surgeons, previous to granting a license, requires that the candidate shall have served a regular apprenticeship, shall have attended lectures and dissections, and shall have submitted to a strict examination on his surgical qualifications only, or the manual and medical treatment of surgical cases.

The physicians in England are licensed by diploma from Oxford or Cambridge, or by examination before the College of Physicians.

In the English Universities, the candidate for a medical diploma,

being graduated as A. B., is, by residing one year longer, and disputing for two separate days before the Professors of the Medical Faculty, entitled to the degree of M. B. And by keeping additional terms, or a partial residence in colleges for three years, and then delivering three distinct lectures in the schools, he receives the full degree of M. D.

In these Universities, lectures are delivered by professors or teachers on medicine, botany, clinical medicine, anatomy, chemistry and mineralogy. But, whatever may be the reputation enjoyed by these venerable institutions, most of the candidates for medical degrees resort to London, Edinburgh, Glasgow, or some foreign University, for more full and complete instruction. The expenses thus incurred, compel the majority of those, aspiring to become physicians, to take their degrees at Edinburgh and Glasgow, and to submit to a further examination before the College of Physicians in London.

In Scotland there are four Universities having the power of conferring medical degrees: Aberdeen, St. Andrew's, Edinburgh and Glasgow.

The following are the regulations respecting medical degrees, now in force in the Marischal college and university of Aberdeen.

"1. Every person offering himself as a candidate for the degree of M. D. shall, 1st, produce satisfactory evidence of his possessing a good character, and of his having attained the age of twenty-five years; and, 2ndly, shall lay before the Senatus Academicus certificates of his having obtained the degree of A. M. in this or some other University, after the usual examinations;* of his having attended courses of lectures on Anatomy, Surgery, Chemistry, Materia Medica, Theory and Practice of Physic, and Botany, in this or some other University or celebrated school, under Professors or teachers of reputation; and of his having attended, for three or more years, a medical Hospital, containing the average number of at least eighty patients.

"2. After the Senatus Academicus shall have been fully satisfied on the above preliminary points, the applicant shall be received as a candidate for the degree of M. D., and shall be required to appear before the University, at one of their stated terms for granting such degrees, and in their presence be examined, by the Medical and other Professors, on the different branches of Medical Science—on his knowledge of the Greek and Latin Languages—and on such other branches of literature as they shall see proper. If fully

* As this requisition respecting the degree of A. M. might prove injurious to some medical students whose education is now in progress, were it to take effect immediately, it is resolved that it shall not come into full force till the year 1830.

satisfied with the qualifications of the candidate, the University shall confer on him the degree which he solicits."

"*Regulations respecting medical degrees, appointed by the Senatus Academicus of the University of St. Andrew's, to be observed in all time coming.*

"1st. No degree shall be conferred on an absent candidate.

"2nd. The candidate must produce a satisfactory certificate that he is upwards of twenty-one years of age, and that he is of unexceptionable moral character.

"3d. The candidate, if he be not in possession of a Diploma as A. M., must produce certificates of his having had a liberal and classical education, and be ready to undergo an examination as to his proficiency in Classical Literature by a committee of the University, or by the Senatus Academicus.

"4th. The candidate must produce certificates that he has attended in some University or celebrated school of Medicine, for at least four complete sessions, during four years, the following branches of Medical Education, viz. Anatomy and Surgery; Practical Anatomy or Private Dissections; Materia Medica and Pharmacy; Chemistry and Chemical Pharmacy; the Theory of Physic; the Practice of Physic; Midwifery and the Diseases of Women and Children; Botany, and Clinical Lectures delivered by Professors, or accredited Medical officers, or the cases of the sick in a large public Hospital. (It is not meant that the candidate shall have attended more than two or three of the above-mentioned Medical Classes during one session.)

"5th. The candidate must bring certificates of his having attended the daily visitations of the Physicians and Surgeons of such Hospital, for at least six months a year, during two different years.

"6th. If the candidate shall have so far satisfied the University, the rector shall be requested to fix a day for his examination by the Medical and other Professors, on all the branches of Medical Science; and provided this examination shall satisfy the Senatus Academicus, the candidate shall have delivered to him, a Medical case or cases with questions subjoined, which questions he must answer in writing, and defend his answers before the members of the University.

"7th. The whole proceedings shall then be submitted to the consideration of the Senatus Academicus, and if they are satisfied, the degree of M. D. shall be conferred on the candidate by the rector in the hall of the public library."

"Such are the regulations appointed by the University of St. Andrew's, to be observed in all ordinary cases. When, however, the candidate, possessed of a Surgical Diploma from Edinburgh, London, Dublin, or Glasgow, shall have been in regular practice for some years, or when he shall have been appointed and have acted as surgeon in his majesty's navy or army, or to the forces or ships of the East India company, a three years' attend-

ance on the above-mentioned courses of Medicine, and one year's attendance on a public Hospital, shall be sufficient to rank him as entitled to be examined.

"Farther, it is desirable that all candidates communicate by letter with the Medical Professor, and send him a list of the certificates he means to produce, before he repairs to St. Andrew's, for examination. This may prevent disappointment, delay, and expense, to the candidate.

"8th. The University reserves to itself the power to confer honorary degrees in medicine, on highly distinguished individuals, who cannot be expected to comply with the above regulations; but every such honorary degree shall be conferred unsolicited and free of expense."

In Edinburgh, by the new regulations of 1825, every candidate for graduation must have spent six months at least of each of four years in the study of Medicine. There is an exception to this in the case of those whose previous general education has been ample, and who, before commencing their medical studies, have obtained the degree of A. M., or an equivalent degree, from some university. One of the four years of medical study may be spent either in some other University, or elsewhere, provided that, in the latter case, the student attend for six months, or more, the practice of some great Hospital. And, farther, those who after passing the necessary examinations, have already acted as Medical officers in the army, navy, or East India Company's service, are excused from one of the four years of medical study.

These regulations make it incumbent on the candidate to produce certificates from each of the professors, of his having attended three full courses on the following branches, viz. Anatomy and Surgery, Chemistry, Materia Medica and Pharmacy, Practice of Medicine, Obstetrics, and the Diseases of Women and Children. These courses commence in November, and continue for six months.

He must likewise produce certificates of his having attended two courses of Clinical Medicine, which consists in accompanying the clinical professor in his daily visits to the patients in the select wards of the Infirmary, and of hearing the lectures delivered by this professor. The lectures are given twice a week, and the course continues for three months. Two courses are given during the session, but the period of attendance is optional with the candidate.

He must likewise produce certificates of his having attended

lectures on two of the following branches: the selection is at his option. Practical Anatomy, Natural History, Medical Jurisprudence, Clinical Surgery, Military Surgery. These lectures continue for three months. He cannot, however, attend the Clinical Medicine and the Clinical Surgery at the same season.

Besides the attendance on Clinical Medicine, he must have attended, for six months, the practice of the infirmary, or some great Hospital.

The candidate for Medical degrees, must signify his intention to the Dean of the Faculty before the twenty-fourth of March, giving satisfactory assurance that he has attained the age of twenty-one years, or that he will have completed it before the day appointed for his examination, and that he is no longer under indentures to any surgeon, apothecary, or person whatever. He must describe the nature of his studies, and produce the requisite certificates, and he must present an inaugural dissertation of his own composition, in Latin, to be examined and approved by one of the Professors designated by the Dean.

Before he is admitted to examination on medical subjects, the faculty must be satisfied that he is sufficiently versed in Latin, when the examination may be conducted in that or any other language, as may be considered most convenient for determining the extent of his acquirements.

If, on this examination, he be found competent, two medical cases with questions are proposed, relating to which he must give a full history, with suitable answers, written in Latin, in ten days, and defend the same publicly on the sixth of July.

After this trial, he must be examined on his thesis, of which at least forty printed copies must be presented to the Dean on the sixth of July. If the candidate have stood this examination, the Dean shall inform the Senatus Academicus, upon whose approbation and authority, he must publicly defend his thesis, on the eleventh of July, and on the succeeding day, if found qualified, the medical honours will be conferred on him.

At Glasgow, the same regulations are observed, except that the term of three years is deemed sufficient.

Those who have studied for three years in any University, may, after one full year's attendance on the courses delivered in Edin-

burgh or Glasgow, respectively be admitted as candidate for the degree of M. D.

In Ireland, there are two institutions with the right of conferring Medical degrees: the University in Dublin, where the regulations are the same as in Cambridge and Oxford, and the degrees thus conferred are equivalent to those obtained in the two English Universities; and the School of Physic, founded by Sir PATRICK DUNN, for the instruction of students of Medicine, Surgery, and Pharmacy, the mode of conferring degrees in which, is the same as in Edinburgh and Glasgow.

Lectures on the following subjects are delivered from the first Monday in November, until the end of the succeeding April, viz. on Anatomy, Physiology and Surgery, on Chemistry, on the Institutes of Medicine, on the Practice of Medicine, on Materia Medica and Pharmacy. The lectures on Botany commence on the first Monday in May, and continue until the end of July.

Clinical lectures are given twice a week during the session; lectures on Pathology during the month of May; Anatomical Demonstrations daily during the session. Students are likewise instructed in the performance of surgical operations. Towards the close of the session, a course of lectures is given on the Diseases of the Skin. Lectures are likewise delivered in the spring, on Midwifery and the Diseases of Women and Children.

At the chemical laboratory, pupils are instructed in Operative Chemistry; and Botanical Demonstrations are given daily by the Professor's assistant in the garden, during the season. Pupils are likewise instructed in the practice of Pharmacy.

In the UNITED STATES, the facilities for obtaining an elementary Medical Education are numerous. In New England, there are many colleges which confer degrees in Medicine; though, if we except that of the Harvard University at Cambridge, their medical faculties are not, we believe, very efficiently organized. In the State of New York, there are two Medical Colleges authorized by law; and in Pennsylvania, the same number, both of which are in Philadelphia. Maryland, South Carolina, Kentucky, have each a Medical school in regular and efficient operation. In Ohio, the attempts to establish a system of collegiate medical instruction, though under legislative sanction, have not yet succeeded to the extent of the wishes of its friends.

The laws of the University of Pennsylvania, exact as necessary conditions for obtaining the degree of Doctor of Medicine, that the candidate shall have attained the age of twenty-one years, shall have applied himself to the study of Medicine three years, two of which shall have been in the University, shall have attended one course of elemental instruction, either in the Pennsylvania Hospital, the city Alms house, or in some other suitable place, at the discretion of the medical faculty; and also have attended the practice, and been the private pupil of some respectable practitioner.

It is, moreover, enjoined

"That no person shall be admitted as a candidate for said degree, unless he shall have regularly attended two complete courses of the lectures of

"The Professor of Anatomy,

"The Professor of the Institutes and the Practice of Physic, and Clinical Medicine,

"The Professor of Surgery,

"The Professor of Materia Medica,

"The Professor of Chemistry,

"The Professor of Midwifery.

"Each candidate for the degree of Doctor of Medicine shall, on or before the 10th of March of the year in which he offers himself as a candidate, and one week before the time appointed for his examination, deliver to the Dean, a thesis of his own composing, on some medical subject, which subject shall have been approved of by the Professors. The candidate shall then be examined privately by the Professors, upon the various branches of Medicine, and upon his thesis, in the presence of such of the trustees as may choose to attend, notice of the time of examination having been previously given to them. If he be found qualified, he shall be reported by the Dean to the Provost, who shall communicate such a report to the trustees, in order that, if approved of by them, their mandamus may be issued for conferring the degree at such a time as they may judge expedient, but no degree shall be conferred, unless ordered by a mandamus, signed by thirteen trustees.

"The thesis may be published, if the candidate desires it, the permission of the Professors by whom he was examined thereon, having been first obtained, but no alteration therein shall be made after such permission shall have been given, and a copy of the thesis shall be deposited by the candidate composing it, in the University library, before the degree shall be conferred.

"Medical students, who have attended one complete course in a respectable Medical school, where the attendance on two complete courses is necessary to a degree, and where the same branches are taught as in this school,

may become candidates for a degree after attending one complete course of the professors above mentioned."*

As in the Medical College at New York, and that of the Transylvania University at Lexington, regulations nearly similar to the above are in force, the students of those schools enjoy the benefit of this last provision. In Baltimore the students are not required to attend two full courses, but are at liberty to select the branches in which they wish to be instructed.

The degree of Master of Pharmacy, though conferred by the University of Pennsylvania, after the fulfilment of certain specified conditions on the part of the candidate, is now more generally bestowed by the College of Pharmacy of Philadelphia. In this latter institution, regular courses of lectures are delivered on Chemistry, and on Materia Medica and Pharmacy.

We will conclude this article by offering some improvements to our system of medical education, in doing which, we shall borrow freely the ideas and language of the author of the "Thoughts, &c." What he tells us of the English apprentice will, we fear, apply with some force to the American student, where he says,

"This period of unnecessary servitude occupies five of the best years of his life, and I will venture to affirm, that it is generally dissipated in acquiring little more than the method of compounding medicines, which might be acquired in as many months. Habits of idleness are frequently formed; the mind of the pupil is filled with confused ideas of the effects of drugs, without any knowledge of the principles which should always direct their application, and it is in the last year only of his apprenticeship, or in numerous instances, not until it is completed, that he really begins the study of his profession. But suppose the student has now passed the twentieth year of his age: that he feels the necessity of commencing the actual business of life; and, consequently, looking chiefly to the rapid attainment of such a portion of information as will enable him to pass his examinations, and enter upon the practice of his profession, that he attends only to those branches of medical education, which will enable him to accomplish these objects in the shortest period of time. He studies anatomy, and dissects, because he cannot advance one step without these aids; but, from his ignorance of mechanics and of chemistry, he is not prepared to understand physiology; and, having no acquaintance with the philosophy of mind, he cannot trace its influence upon the coporeal functions; so that, not unfrequently, he becomes a mere routine practitioner, or a trader in specifics, depending for

* Laws for the government of the medical department of the University of Pennsylvania. 1826.

assistance, in every case of difficulty, on the opinion and skill of others."—pp. 3, 4.

The writer then proposes, that the system of apprenticeship shall be abolished, and advocates the plan of the young man at once going to London, and there beginning his medical studies. "I will suppose," he says,

"That the building for the University is completed; that the lectures are about to commence, and that a young man presents himself to be admitted as a student of medicine. I must presume, that, before his wish can be accomplished, the rules of the establishment will require that he be examined regarding his attainments in classical literature. To what extent this may be requisite, it is not my intention to inquire, but, certainly, the candidate should possess such a knowledge of the Latin and Greek tongues as may enable him to read the ancient medical authors in the language in which they wrote. And, besides, as medicine is a profession which elevates its followers to the rank of gentlemen, the student who is desirous of attaining eminence, should possess that portion of classical learning which every gentleman is presumed to have acquired. Mathematics is another branch of general education which every student of medicine should have studied, to a certain extent, before commencing his medical education: for, if it be no difficult task to prove that a knowledge of the principles of mechanics is essential in a complete medical education, it must be obvious that mathematics, as a preliminary study, cannot be dispensed with, even were no other advantage obtained from the study of that branch of science, than the faculty of following a chain of close and abstract reasoning which it bestows. The student who enters for medicine, should also have a knowledge of drawing, or as much of it, at least, as will enable him to delineate with facility and accuracy, the parts of the human body, both in the state of health and of disease. It is, indeed, astonishing that the art of drawing is still so totally neglected in the education of medical men, when the advantages derived from that accomplishment by a few members of the profession, who have made it an object of study, are generally known. Besides the facility which drawing affords of rendering permanent, diseased appearances of a changeable character, and of communicating ideas of them to others, much more accurate and satisfactory than could be accomplished in many pages of description in words, that delightful art confers upon its votaries almost an additional sense."—pp. 12, 13.

Though we are not prepared at this time to advocate, as a general practice, the youth of our country coming to our large cities for the purpose of spending there the entire period of medical study, in place of remaining, as now, a portion of the time with a practitioner at home, yet we still conceive the preceding

remarks entitled to especial notice and consideration; and we are fully persuaded that some such preliminary qualifications as those above stated, ought to be required of a young man, before he is received into the office of a practising physician. We cannot conceive a better exercise for a country student than drawing, first the bones of the human body, and then the muscles and principal organs. Six months spent in this way, with, perhaps, a single dissection, will give him a fuller knowledge of anatomy, than two years of reading; to say nothing of its being so admirable a preparation for the study of surgery, by fixing indelibly on his mind the relative situation and connexion of parts, and giving him a habit of minute investigation, and accuracy in measurement, so necessary for the success of surgical operations. Botany will, to a youth who has command of his pencil, appear with additional charms; scarcely can he have drawn and coloured a dozen of plants, before he will be solicitous to know the names and offices of the various parts of which a vegetable is composed; and thus botanical terminology will lose all its imaginary terrors. The same useful application of this accomplishment may be made to other departments of Natural History, and the student, while he thus habituates himself to observing the external characters, colour, attitudes, &c. of plants and animals, is laying the surest foundation for that knowledge of physiognomy, in the enlarged sense of the term, which is afterwards to enable him to detect in the symptoms and signs of diseases, some of which are often evanescent, the indices to a correct diagnosis and successful remedial treatment.* It would be well if the example of the University of Gottingen were more generally followed in making, as has been done in it, Drawing, a regular chair of the philosophical faculty, between mineralogy and astronomy. The illustrious Bacon, with his usual discrimination, places the pictorial and plastic arts among those subjects which more immediately constitute the natural history of man, and have an especial relation to medicine, as we find in his mentioning, 66. *Historia Chymica circa Medicinas;* 67. *Historia*

* An experienced teacher of drawing in this city, Mr. P. Ancona, has, at our suggestion, taken, in crayon, draughts of the entire skeleton, and muscles of the trunk and limbs, of a natural size, which have been already copied with acknowledged good effect by some of the students of medicine.

Visus et visibilium, sive Optica; 68. *Historia Picturæ, Sculptoria, Plastica, &c.;* 69. *Historia Auditus et Sonorum.*

But to return to our author. He proposes

"To divide the course of medical studies into three stages; preparatory, progressive and practical. The first, or *preparatory* stage or division, comprehends those studies which convey a knowledge of the forms of bodies, and of their parts or fabric, and the most generally adopted arrangement or classification of natural objects, viz.

"Natural History,
"Systematic Botany,
"Descriptive Anatomy.

"The second, or, *progressive,* to embrace those studies that contribute to develop the laws which regulate inorganic matter, and the functions of organic bodies:

"Natural Philosophy,
"Chemistry,
"Phytology,
"Physiology,
"Moral Philosophy.

"The third, or *practical,* to consist of those studies which convey a knowledge of the ultimate objects of the profession of medicine, and, consequently, teach the application of the previous studies:

"Materia Medica and Pharmacy,
"Pathology and the practice of Medicine,
"Surgery,
"Obstetrical Surgery and Medicine,
"Medical Jurisprudence,
"Medical Ethics.

"During the period required for the studies of the second and third divisions, the student ought to be occupied daily, for two hours, at least, in the dissecting room, under the direction of an assistant of the professor of anatomy, whose sole duty should be to guide him in his dissections, and to demonstrate the parts dissected; and, during the third division, besides attending regularly in a hospital where *clinical lectures* are delivered, no opportunity of assisting at the dissections of diseased bodies should be neglected." pp. 16, 17.

We have not room to give the reasonings by which the writer supports this division of branches, nor his remarks on the utility of each; nor are we prepared to advocate entirely the propriety of all his views, which, however, justice requires us to acknowledge, are generally practical, and always liberal. Medical education must receive an impetus from the spirit of the times; and it behoves the directors of medical studies to give it such a di-

rection, as that it shall meet the wants, if not anticipate the wishes, of an enlightened people. In this, as in all other matters, temperate reform ought to be preferred to violent revolutions; but though we deprecate passionate or selfish haste—let us not on that account, be supinely quiescent under a system, when comparison and experience shall show it to be defective and inefficient for the purposes for which it was originally framed.

We shall draw our remarks to a close for the present, by a brief recapitulation of the course pursued in the most celebrated foreign schools of medicine. We have seen that in the Austrian Universities, and the three French Faculties of medicine, before a youth is allowed to enrol himself as a medical student, he must exhibit satisfactory testimonials of his having received a liberal education in classical and general literature in the Lyceums: and at the Universities of Aberdeen and St. Andrew's, the candidate for graduation must either exhibit his degree of M. A. or undergo an examination by the Senatus Academicus, in which he is to give proofs of his attainments in classical and general literature.

The entire period of studies before the degree of Doctor in Medicine can be obtained, is in Austria, and at two of the most celebrated of the medical schools of Italy, (Padua and Pavia) *five* years. In France, and in some parts of Italy, as at Bologna, and at St. Andrew's and Edinburgh in Scotland, *four* years is the prescribed period of *Collegiate* Medical study; while in Glasgow, it is required of the candidate to have spent but *three* years in a similar manner.

The *number of branches* of Medicine and Surgery, taught in Vienna, is eighteen; attendance on which, in a certain order, is exacted of every student, during his five years of study. In Gottingen, twenty different courses of lectures are delivered, in the Medical department, by nine professors; on no one of whom, however, is attendance specifically enjoined of the students. In Paris, the number of professors in the School of Medicine, regularly nominated, is twenty-two. The only presumptive evidence of the student having attended all these in succession, during his four years of study, is his trimestral *inscription*: in other respects, he is free to choose whomever he will attend and hear.

In Strasburgh, the medical faculty consists of twelve professors, each of whom lectures on a separate branch.

In Pavia and Padua, there are in each, fifteen distinct branches, taught by as many professors; attendance on eleven of whom is enjoined in the school of Padua, and on thirteen in that of Pavia, in a certain regular series, during the five years of study.

In Bologna, twelve professors teach the like number of different branches; to attend whom, in a regular and prescribed order, is exacted of the students of the Medical School, during their period of four years study.

In Edinburgh, during the four years study enjoined on the candidate for graduation, he is required to attend lectures on seven different branches.

At the University of St. Andrew's, attendance on the lectures on nine branches, and at that of Aberdeen, attendance on six, at some respectable Medical School, is demanded as a necessary prerequisite for obtaining the degree of Doctor of Medicine, at those institutions.

In the United States, the longest period of medical study prescribed by any University, is, we believe, three years; and during this time, the attendance of the student is exacted for two winter sessions, each of four months, on six professors, who teach the same number of branches. In fact then, *the entire medical collegiate course is comprised in eight months.* No preliminary qualifications are demanded of the youth about to study medicine, nor are any insisted on from the candidate for graduation. The system of branches being taught in a regular series, beginning with the more simple, and, as the term of study advances, continuing with the more complex and difficult, is not recognized nor acted on in any of our Medical Schools. The cause of all the deficiencies with which, in a spirit of rigid impartiality, they may be charged, is in the limited period of medical study, and the shortness of the collegiate sessions. On this ground, we believe, rest the apologies for not erecting into separate chairs, the Institutes of Medicine, and Medical Jurisprudence: but the former is taught in the Transylvania University, and at the Baltimore Medical College, and in the chartered Institution, in the western district of New York, by professors appointed specifically for that duty; and at the best, we are at a loss to learn why one evil should be alleged, in justification of another. In continental Europe, we have seen, that not only is the Institutes of Medicine, or the Theory of Physic

constantly taught, but that it is usually divided into two distinct branches, viz: Physiology, and Pathology; which, as the only sure foundation for medical reasoning, and as constituting the principles to guide in the practice of medicine, cannot be overlooked or neglected, without greatly retarding the advance of medical science, and being productive of serious detriment to the people at large, whose health and happiness so much depends on the expanded minds and correct judgment of their medical advisers. Of Medical Jurisprudence, in reference either to its intrinsic and direct usefulness to the students of law and medicine, or to its value in teaching the nature and weight of testimony, it is needless to enlarge on this occasion. We should be doing injustice to the profession of which we are members, if we did not, however, pointedly express our thorough conviction of the imperative necessity, (alike dictated by the wants of the age, and the progress of the science of medicine) under which the directors of Medical Colleges are now placed, to establish separate chairs for the teaching of the Institutes of Medicine, and Medical Jurisprudence. By such means, timely adopted and vigorously supported, will a broad line of demarcation be drawn between the ignorant pretender, and the accomplished physician; and then may we echo with renewed delight, the beautiful compliment of Cicero: "Homines ad Deos nullâ re proprius accedunt, quam salutem hominibus dando."

* * * *

MEDICAL LITERATURE.

ARTICLE X.—RETROSPECTIVE REVIEW.—*Recherches sur le tissu muqueux, ou l'organe cellulaire et sur quelques maladies de la poitrine.* Par THEOPHILE BORDEU. Docteur en Médecine des facultés de Paris et de Montpellier.—Paris 1767, 12mo.

Suum cuique judicium, et omnes, pro suo quisque arbitratu aliter atque aliter eâdem de re sentiunt.—*Ballonius.*

Previous to the time of BORDEU, little positive, was known in relation to the Anatomy or Physiology of the cellular tissue, *tela seu tectus mucosus cellulosus*, of various writers, or *cribrosus* of Hippocrates. With the exception, indeed, of some references to it, discovered in the writings of the Coan sage, it may, we think, safely be asserted, that by the ancient writers on Anatomy and Medicine, it was not described, or even alluded to, in a definite or intelligible manner. CHARLES ETIENNE, who flourished about the middle of the fourteenth century, was the first to describe in a tolerably faithful manner, the cellular filaments, by which the vessels are attached to the surrounding parts. After him, VESALIUS and COLUMBUS described the cellular envelope of the muscles; and at a subsequent period, many anatomists, such as SCHOBURGER, THIERRY, HUNTER, and others, whose names are recorded in HALLER's great work on Physiology, described the same texture, as it exists in several parts of the body. But to BORDEU, the credit is certainly due, of having first given a general description of the cellular tissue,—of pointing out the modifications of its structures in different parts of the body, and attempting to show its functions, both in a state of health and disease.

According to one of BORDEU's biographers, ROUSSEL, the work before us was necessary, for the explanation and development of all our author's views, partly published in his former writings. BORDEU's object, it would seem, was to direct the attention of physicians to the neglected course of observation and induction;

which, when he wrote, were greatly obscured amid the jargon of the schools, or even in some places, had entirely given way to the hypotheses of chemical and mechanical medicine, or the absurd notions of an exclusive humoralism. Whether or not he succeeded in the attempt, and pointed out the superiority of the ancient doctrines over those of his own time, it is not our object, on the present occasion, to inquire; but we may safely say, that the present researches into the Anatomy and Physiology of the cellular tissue, gave to BICHAT the first idea of his Treatise on the Membranes, and his immortal work on General Anatomy.

BORDEU very well remarks, that of all the various tissues of the body, the cellular, or as he called it, the mucous, is the most extensive, and of the greatest use in the system. It serves to the nourishment of all the organs, and constitutes in fact, the basis of their structure: one of BORDEU's successors, who adopted most of his ideas on the subject of this tissue, regards it as the first degree of organization; and MECKEL has well denominated it the matrix of all the organs. BORDEU further remarks, that it unites the various parts of the system together, and serves as a medium of communication between them. It is the seat of many diseases, and of many phenomena of the economy, in a state of health.

After a few preliminary observations, on which we have not room to enlarge, our author remarks, that on separating a small bundle of muscular fibres, we discover a sort of froth or glue, whose parts are elongated, in proportion as the fibres are separated. This glue constitutes the cellular membrane in its primitive state, and is allied to what the chemists call the mucous substance of vegetables. Hence BORDEU was induced to apply the term mucous, to denominate this membrane. "When examined with the aid of a microscope, it appears to be a compound of atoms, or small bodies united together, and arranged without symmetry, more or less soft, and transparent. It may be compared to animal jelly." It follows, therefore, that in BORDEU's opinion, the cellular tissue is homogeneous in its nature; an opinion which has been opposed by no less authorities in Anatomy, than HALLER, BICHAT, BECLARD, BLAINVILLE, and most of the Italian and English Anatomists, who regard the tissue as purely filamentous and cellular. It is gratifying, however, to the admirers of BORDEU, to perceive, that his opinion is supported by WOLFF, AUTENRIETH, BLUMENBACH, RUDOL-

PHI, and particularly by MECKEL, who does not hesitate to affirm, that the filaments and cells are made by the dissector, or arise from disease, and do not exist in a healthy state of the parts.

Some modern writers have denied the correctness of the opinion of BORDEU, respecting the nature of the cellular tissue, and assert that it is a mere compound of vessels, arterial, venous and lymphatic; but, as has been well remarked by a late author, the idea of vessels, implies that of parietes; and even supposing that the opinion was correct, it is precisely their parietes, that constitute the primary fibres of the cellular tissue. Agreeably to BICHAT, the cellular organ may be viewed as the origin of the absorbent system; and he further thought, that these vessels and the exhalants enter largely into its texture; but he adds, that neither observation nor dissection, can be called in support of the opinion of those who believe that they constitute its whole texture.

According to BORDEU, in order to trace the progress of the cellular tissue, as well as all the changes it undergoes at the different epochs of life, it is necessary to examine it in the earliest periods of the fœtal state, and in the adult. The muscles of a chick, in the early periods of incubation, consist in nothing more than a kind of soft pulp, apparently homogeneous in its texture, and in which, neither a fibrous, nor a vascular structure is to be traced. After a certain time, fibres appear, or at least the whole muscle is not as homogeneous as before, and no longer resembles a piece of dough. Its parts are divided and separated from each other—they become more evidently organized—fibres and vessels appear, and there remains in their interstices, some of the glutinous substance, of greater or less consistence; this constitutes the real cellular tissue. Previous to the development of the fibres, the substance consisted merely in a quantity of mucous or nutritious matter; which, in the period we have alluded to above, has become organized and fibrous, and divided into a number of small layers or laminæ, variously united to each other, and which laminæ form, or constitute a certain quantity of cellular substance.

This tissue surrounds each muscular fibre separately, and, moreover, forms a sheath, containing several or many of these fibres. The laminæ of the cellular tissue, could, therefore, be divided into primitive and secondary. The former being very soft, the latter

more tense and membranous. It follows from this arrangement of the fibres, that the cellular tissue must be viewed as a spongy substance, in which there are cavities, varying according to the degree of motion and separation of the fibres.

Agreeably to BORDEU, the primitive fibres are equal in all subjects; they change neither in respect to size or shape. They are, he adds, more or less straightened or wrinkled, but, on the whole, they are the same in all sorts of animals; they constitute the principal material of the animal body. Nature has constructed them all alike. He, moreover, thought that each organ contained an equal number of fibres in animals of the same species; the only difference in the size, strength, age, sexes, and temperaments, in the individual animal, depending on the abundance, position, and consistence of the cellular tissue, or of the sheaths it furnishes to all the fibres.

On the subject of the nourishment and growth of the cellular tissue, BORDEU entertained opinions, in many respects at variance with those defended at the present day; nevertheless they merit to be noticed here. According to him this substance is nourished by juxta-position, and its growth is accomplished layer by layer, in the same way as a body on which we apply several coats of varnish. In order to demonstrate the correctness of this opinion, he appeals to the facts already shown a few years before by PETIT, that the crystalline lens is composed of several layers of cellular tissue, as well as to the circumstance that DUHAMEL has proved, that the growth of bones is effected by the application of layers, which he regards as the products of the internal or external periosteum. These products, BORDEU continues, are real cellular, or rather mucous tissue, which concretes gradually, and is applied by concretive layers, in the same way as the nutritive substance of trees. He also cites the scaly disposition of the epidermis, which he thinks depends, in the natural state, on a sort of mucous substance, which concretes,—an opinion adopted in latter times by MECKEL and other anatomists. Similar, though less regular scabs, BORDEU continues, are seen to form on old ulcers, in the remains of the pustules of the small pox, in cicatrices, &c. which are merely concretions of a matter exuding from the affected surfaces.

Such an hypothesis, however, is totally inadmissible in the pre-

sent state of the science, for, were we to regard Bordeu's views as correct, we should be in some measure forced to consider all of them as scabs, and as being inorganic, and placed beyond the precincts of vitality. And yet it may be asked, in the language of a celebrated anatomist, what is a tissue which is nourished, which inflames and suppurates, which is the seat of well marked vital functions, and lives in a very sensible manner, if not an organic tissue? "All these vague ideas," says Bichat, "of concreted juices, of non organized glue, of hardened juices, which have been applied to the cellular tissue, do not rest on a solid foundation, on any experiment, or on any observations, and must be banished from a science, in which the imagination is nothing, and facts are every thing."

After stating that the nails, teeth, vertebral ligaments, &c. grow by successive layers, Bordeu remarks, that the cellular or mucous substance grows in this way every where, and concurs to the nourishment of all parts, and that the difference existing in the manner in which the layers are placed, depends upon the diversity of shape of the fibres on which they are applied, and the disposition of the various organs, to the composition of which they contribute. He further remarks, in conformity with the views we have noticed in a former number of this journal, that this variation depends on the disposition of the nervous fibres of the part; these nervous fibres containing the germs of each part, which is developed gradually in the cellular substance. This theory, he thinks, accords very well with many phenomena of the animal economy, especially with the mode of formation of cicatrices. The doctrine of the cellular layers, together with what has been said respecting the *immutability* of the nervous or primitive fibres, can, agreeably to B., throw some light upon the theory of inflammation; since all inflamed parts contain a nucleus or effusion of mucous substance, which constitutes a kind of cicatrix, even after the resolution of the inflammation has taken place. Many diseases, both acute and chronic, depend, therefore, upon the disposition of the cellular substance.

"What must be thought after all that has just been said, of the assertions found in many authors, on the subject of the diseases of the fibres? *Stiffness, looseness, dryness, debility, delicacy,* and *coarseness* to which it has been pretended they were subject, do not much agree with the fixed and immutable constitution that we have said belonged to them; it would, no doubt, be

better to attribute all these accidents, (the causes of which are referred to a proper and personal disposition of the fibres,) to the disposition of the laminæ of the cellular tissue; besides, what has been said of simple fibres, ought to be understood of bundles of fibres, the greatest portion of which, consists only of cellular tissue; but all those diseases, in general attributed to the fibres, are only mere manners of conceiving things; approximations and suppositions, supported by an imagination that simplifies all objects; those general conditions, or diseases, are not found in patients; they are ideal and imaginary, and can, at the most, serve, as infinitely small quantities, or, as points without extension serve mathematicians. Scholastic minds are fond of thus reducing things under points of view, from whence they set out to extend their theory, or to establish, in the schools, some general laws; these laws may please the multitude, and light minds, but we are always obliged to abandon them at the bed-side of the sick. It is there we are able to appreciate these frivolous speculations: they only serve to amuse persons without experience."

Having, as yet, considered the cellular tissue only in a general manner, and, as a homogeneous substance, separating the fibres from each other, and uniting them together, BORDEU next proceeds to examine it as it forms the principal layers or membranes, enveloping the various organs of the body.

This tissue, according to him, may be divided into two general layers; the one may be called internal, occupying, as it does, the principal cavities; whilst the other is external, and covers the whole surface of the body. Each of these layers is subdivided into several large portions or sacks. The pia mater, the pleura, and peritoneum, constitute portions of the internal layer. These membranes are evidently laminæ of cellular tissue, which have been so approximated to each other, by the surrounding parts, as to be converted into smooth and polished membranes, especially on the side most liable to friction. This hypothesis is little supported by facts, since in an early period of the fœtal state, and in which the organs covered by the nervous membranes are little subject to friction, these membranes are found perfect in their organization. It may also be remarked, that whenever, during life, owing to inflammation, these parts exude a quantity of lymph, which BORDEU would probably call mucous, since, with time, it becomes converted into a real cellular tissue, notwithstanding the utmost degree of friction, the membrane has its polish, and remains glued to the surrounding parts. It follows, therefore, that although it be a fact well established by subsequent observa-

tions, that the serous membranes are resolved into cellular tissue, we must admit, that owing to a peculiarity of organization, the laminæ, which compose them, assume, from their very origin, the membranous form, and that this latter does not depend simply on compression and friction as maintained by Bordeu.

Next follows a rather minute description of, and a train of remarks on the serous membranes, which we have not room to notice here in detail. The following extracts may not be uninteresting, as showing the author's manner, and some of his particular opinions.

"However this may be, the sack, commonly called the internal membrane of the peritoneum, is only a species of bladder, the external surface of which is attached to thousands of laminæ, which are, as it were, its appendices; these laminæ penetrate into the neighbouring parts, and we commonly call them the external layers of the peritoneum; they consist in portions of the mucous tissue, which are not so near the state of a membrane as those composing the internal layer."

"We know that in detaching the external layer of the peritoneum, from the surface of the liver, we perceive a very fine lanuginous tissue, which served as a glue to the membrane: this tissue is only an expansion of that which followed the vessels of the liver; but there is still another portion of the same tissue which composes the body of the viscus itself, so that, with the exception of the vessels, nerves, and biliary ducts, it is almost entirely formed of this substance. The first layer serves as a general covering to it; another follows the vessels in all their divisions and encloses them; a third, in short, serves as a base or a foundation, upon which the vessels extend their ramifications; at any rate, what we regard here as three portions, is but one and the same tissue, whose parts are more or less firm or delicate. Besides, we consider the viscus and its cellular tissue, not such as it was originally, but such as it is in the adult; and this consideration principally points out the different direction that any substance (contained in the different portions of the cellular tissue) could take."

"What we have just said of the liver, ought to be understood of all the other viscera of the abdomen, with the exceptions that every one ought to know, from the history of the peritoneum, contained in the treatises of anatomy."

"Such is then the manner in which the cellular tissue covers the viscera of the three cavities of the body. As respects the substance of these viscera, we must not judge of them as of the muscular fibres, in which the cellular layers are arranged symmetrically, and in cylindrical sheaths, in which the fibres slide. The texture of the viscera is not the same. The cellular substance is placed in a much less regular manner. It is less organized, and resembles a sponge; it approaches in nature a bit of nutritious

dough. Hence the flesh of the viscera is less moveable, less animalized, if we may be allowed the expression. The ancients called it parenchyma. The moderns have endeavoured to render obsolete this term, which is a trifling error. But they have endeavoured to give a particular and well defined form to the tissue of the viscera; and here they have not succeeded. One must always arrive at something pulpous, not vascular, not vesicular, something which only consists in mucosity, and a primary layer of the mucous tissue."

Bordeu's second or external layer consists in that general covering or kind of sack, found on dissection under the skin. It is not smooth, like the former, owing, as B. thinks, to a less degree of compression, and to its being less subject to friction. It may be divided into several portions or sacks; the first situated on the head and neck, the second on the thorax and trunk, and the third on the extremities. Each of these portions of the external layer communicates with the corresponding portion of the internal lamina. This communication is not effected in all parts of the body by the shortest route, but sometimes in a very tortuous way. Those portions of the tissue which correspond to the interstices of the muscles, proceed in a pretty straight direction from the external to the internal parts of the body; but this occurs in but few places, because in most instances one muscle fills up the space left by the others. Consequently, the cellular tissue must envelop each muscle before going further, and thus constitute its proper membrane. Each muscle has its particular one, while by its external surface, and through the medium of a looser sort, the same tissue adheres to many more. Each fasciculus of muscular fibres has also its sheath, which acts in regard to them in a similar manner as the external layer of the whole muscle does in regard to it.*

* Bichat, who certainly deserves the greatest praise for his researches into anatomy and physiology, and who has carried a knowledge of the structure and properties of the cellular membrane much farther than Bordeu could possibly have done, has not shown as much justice to the latter as he appears to us to deserve. In his chapter on this subject, Bordeu's name is seldom mentioned, but on points in which he has erred; and yet a careful examination of both works will serve to show that Bichat has borrowed very largely from his predecessor. A quotation from the Anatomie Generale, on the subject more particularly before us, will serve to show this. "Each muscular fasciculus, each muscular fibre, each nervous filament, each aponeurotic or ligamentous portion, each glandular grain, &c. is sur-

In respect to the communication between the internal and external layers of the cellular membranes, it appears much more evident in some places than in others. The portion of this tissue covering the abdomen, communicates in a more direct manner with the peritoneum, towards the buttocks and fundament, than any where else. The portion covering the thorax is very thick and loose towards the mammæ, and in the axillæ, in both sexes. In this part the communication with the pleura is evident, and should be borne in mind by the practitioner in the treatment of thoracic diseases. The whole of the portions of cellular membrane covering the chest may be divided into two parts, joined posteriorly over the spine, and anteriorly opposite the sternum.

We make the following extract for the benefit of those, who, in later times, have discovered a communication between the pleura and the cellular membrane of the neck.

"The sack which covers the neck, the head and face, merits considerable attention: it first passes around the neck, joining itself towards its front part, to the platysma myoides; it afterwards pierces the muscle, and extends itself by loose productions, over all the neighbouring parts, to the larynx and the pharynx, where it communicates with similar productions sent off by the pleura. This communication is very evident upon the lateral parts of the neck, towards the masses of lymphatic glands which are situated there, and which float, as it were, amid a sort of fibres, composed of the cellular substance covering the breast and neck; it even appears that the former has a greater share in the formation of this texture than the latter. The posterior part of the neck is well provided with muscles, which are with difficulty pierced by the cellular substance; for although it is found in great abundance towards the surface, it is more dense towards the body of the muscles, through which we can, however, follow it as far as the vertebræ, and even into their cavity: it may also be done, though less easily, with the cellular substance of the back."

After describing the cellular membrane of the extremities, and explaining the use of the tendinous fascia, Bordeu makes the following remarks.

"The tissue belonging to the muscles of the extremities, has immediate and very singular connexions with the cellular tissue of the lower part of the abdomen and breast. It communicates towards the lower parts with the peritoneum, and towards the upper parts with the pleura; these two

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rounded by a cellular sheath or layer, which, in relation to these parts, is destined to the same uses, as the larger envelope we have mentioned, fulfils in regard to the whole again."

membranes (that is, the pleura and peritoneum,) send out, 1st, productions which follow the cellular tissue of the vessels; 2nd, evident prolongations, whence result towards the groins, and under the axillæ, flabby masses, in which lymphatic glands are situated; 3d, prolongations which accompany and penetrate the muscles, and extend to the extremities of the limbs, where we find a curious mixture of aponeurosis, and of the cellular tissue, towards the wrists and ankle, also towards the toes, fingers, and their articulations. All these communications are important, and very often serve us in the explanation of the symptoms of disease. They demonstrate the connexion existing between the trunk and extremities, and afford an idea of the manner in which those parts can act on each other.

"Such is, in general terms, the picture one can give of the cellular substance and of its productions; we see it is composed of many general and particular layers (couches) singularly bound together; these layers differ in consistence, according as they are near or far from the first fibres: they at first envelop these fibres, or sheathe them as a slimy or mucous plaster; these layers afterwards dry up, extend and thicken themselves all along by the application of new layers, aided by the movements and extensions of the parts. The whole external layer, from the feet to the head, seems to be a single general sack; the same may be said of that which occupies the whole internal part of the intestines, from the mouth and the cavities which terminate in it. Of these two layers, the external one is the most extended, whilst the other is singularly folded; but it is sufficiently characterized not to escape the experienced eye: thus the external and internal surface of the body are but two lamina of cellular substance of more or less thickness; these two laminæ contain between them, or in the space that separates them, all the other parts; they are joined to those parts by productions which, as we have just shown, glue them together."

This state of communication and cohesion of the cellular tissue gives to it an evident tonic force; since all those sheaths or portions of this tissue, which we have already shown to exist between the two principal layers, act one upon the other. They afford each other a natural support, in such a way, that the one cannot be relaxed or constricted without affecting in a greater or less degree, all the others, and particularly those portions of it that belong to the same department. From all these efforts there results, according to B. a sort of equilibrium, a reciprocal action and re-action, depending as much upon the cohesion of the parts constituting the sheaths, as upon that of the portions by which these are united together. Finally, this tonic movement, which may be regarded as simply passive, retains the parts in their natural

and reciprocal relations, and acquires more or less energy from the action of the nerves and vessels distributed to the cellular tissue.

"It is in this spongy organ, thus arranged, that the different parts are placed, such as the viscera, the muscles and the glands; they are, as it were, planted in this parenchymatous substance, in which they grow, by covering themselves with many layers; they then extend and arrange themselves by the force of their germs, or of the extremities of their proper nerves. All those parts are, in young subjects, only species of buds which grow in the cellular tissue in the same way as branches, fruits, and leaves of trees extend themselves in the air, or rather as roots grow and turn (contournent) in the ground. However it may be, all these organs, thus imbedded in the cellular substance or organ, must constrict, confine, relax and modify it in a singular manner in these different portions: these modifications, which depend on the movements as well as on the mere presence of those organs, afford a correct idea of what has been called the department of the viscera and of the other parts, in the researches on the glands; the department of an organ is nothing more than its cellular atmosphere, if we may be allowed the expression, or else the department of a part is nothing more than the portion of the cellular tissue which has some relation with its action: when this part, then, changes its position or condition, the whole of the cellular tissue, which belongs to its department, receives also particular modifications."

Another very general property of the cellular tissue, as Bordeu remarks, is what might be denominated its *permeability* or spongy disposition, in consequence of which the aqueous vapour (or insensible perspiration) which continually moistens it, is allowed an easy passage from one part of the body to another. These vapours, he continues, may travel in all directions without in the natural state, meeting with any obstacle. In consequence of this view of the subject, he compares the cellular tissue to an atmosphere, in which the humours have generally a free passage, which, whenever it is deranged, gives rise to various accumulations and directions, depending upon the different degrees of strength of this same cellular tissue. According to him, it is by means of short currents, directions of the matter of perspiration, that many phenomena may be accounted for, which, by every other theory, are totally inexplicable. However ingenious such an hypothesis may be considered, we need hardly say, that, by later researches into the subject, it has been shown to be unfounded; anatomists and physiologists having proved that the halitus, vapour, and adipous fluid, stagnate until *absorbed*, in the place

in which they were *secreted*. The contrary takes place only in a morbid condition or by mechanical force.

This opinion of the passage of the aqueous vapour from one part of the cellular membrane to another, cannot be thought to contradict BORDEU's statement already noticed, of the homogeneous and mucous nature of the tissue, in its primary state; for, although he believes this latter sentiment, he considers that the tissue grows by successive layers, between which the attachment is not so considerable as to prevent the passage of fluid, and even the formation of cells. Even by those who have carried, in opposition to HALLER and BICHAT, the opinion of the homogeneous and mucous nature of the cellular tissue, much farther than BORDEU himself, and, consequently, who have denied the existence of cells in the natural state of the part, a disposition is, nevertheless, admitted in this tissue of being separated into filaments and cells, by insufflation, by water, or any other similar causes. On this subject the reader will find very interesting remarks in MECKEL's late work on general and pathological anatomy. At any rate, we have not offered the preceding remarks under the influence of a belief in the correctness of BORDEU's deductions, relative to the power of the wrong direction of the aqueous vapour in producing the morbid changes above alluded to, as we do not hesitate to admit with BICHAT, that "Toutes ces theories que l'inspection ne prouva jamais, répugnent aux lois connues de notre économie, lois qui nous montrent les fluides circulant constamment dans des vaissaux, en vertu des forces vitales, de la sensibilité organique, et de la contractilité de ces mémes vaissaux, et non s'extravasant ainsi pour se mouvoir irreguliérement dans le tissu cellulaire."

The tone or cohesion, continues BORDEU, as well as its permeability, (*penetrability*) are a little deranged or modified by some condensations (etranglemens) we discover in its interior. They must necessarily alter the direction of the humours, and give rise to some particular relations and resistances on the part of this tissue, very different from those arising from the reciprocal action of those sheaths already alluded to. Many of these condensations may be noticed at the wrists and ankles, &c., but there is one much more singular and remarkable than all these, and which divides the body in two lateral halves. It constitutes the general *raphe* of the body, which has been alluded to in detail in the trea-

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tise on the glands. It will not be necessary to dwell here upon this subject, which appears to have been a favourite one with Bordeu, as he has developed in detail his views upon it in several of his works. As we have already remarked, this division of the body into two lateral halves was adopted by Bichat; but, by him, was restricted to the organs of animal life, and considered capable of distinguishing these from the organs of organic life, which are characterized by great irregularity in their distribution.

"The innumerable vessels, the nerves and membraneous laminæ, which lose themselves in the cellular substance, give it a much better defined action than that of which we have spoken above (No. LXX.) They animate it, and render it both moveable and sensible, proper for dilatations and extraordinary condensations; this action constitutes, properly speaking, all that of the cellular organ, which is continually agitated, and in a perpetual state of motion of condensation and dilatation; were it even only owing to the action of the atmosphere, which, at each instant, yields more or less to the effort of the vessels or the oscillations of the fibres. This continual motion, joined to the tenacity of the cellular tissue, opposes a mild, equable and graduated resistance, against which the power of the vessels and nerves loses itself, as it were: it appears, besides, that the cellular tissue is sufficiently moveable, capable of resistance and elastic, to retain the degrees of action it receives, with more or less increase or diminution, according to the circumstances. This elasticity, and those movements of the cellular tissue, combined to those of the skin, and of the whole fibrous and vascular systems, keep up and partly establish the tonic movements of Van Helmont, which Stahl has so well analysed, and to which many physiologists have recourse in the explanation of the principal phenomena of the animal economy."

It appears from the researches of modern anatomists, that Bordeu's views respecting the *properties* of the cellular tissue were not founded on correct observation. That extensive part of our economy possesses extensibility, as is admitted by Bichat, who shows that this property is found in greater or less degree in different parts of the tissue. It is also proved by this celebrated physiologist that it possesses contractility, varying in degree at the different periods of life. But Bichat shows, that, of what he denominates the *vital* properties, the cellular membrane does not manifest, in a healthy state, those distinguished by the term of animal—that it may be cut, drawn, or distended with gaz, whilst the animal, subjected to these experiments, gives no sign of sensibility, the nerves, in fact, merely passing through it, and rami-

fying, to a certain extent, in its substance. In a state of inflammation, however, sensibility becomes very much exalted in it, and is manifested by considerable pain. The organic properties, on the contrary, are shown to be very well marked in the tissue—as evinced by absorption, exhalation, and organic sensible contractility.

After making some remarks on the action which the constant movements of the diaphragm must impart, through the medium of the peritoneum and pleura, to the cellular membrane of the whole body, and, on the influence which this central muscle and the other organs contained in the epigastric or phrenic region, must exercise from their many nerves, upon the rest of the body, Bordeu proceeds to support his theory of the cellular membrane by observations, and to bring forward practical facts, of which this theory appeared to him, in fact, the natural result. We should premise, however, that, in all his speculations upon the subject, Bordeu seems to have directed his attention almost exclusively to the communication afforded to different parts of the body by the cellular membrane, in a state of health and disease, and to have overlooked a fact noticed by many moderns; but particularly insisted upon by Bichat and Meckel, that, by means of this membrane, the vitality of each organ is isolated—almost completely shut off from even the neighbouring organs, by which means disease of one organ is, in most instances, prevented from progressing to other parts in the vicinity.

In cases of suppuration in the substance of a limb, or in some of the bony layers (we are now using nearly the language of B.) the portion of skin covering the part which suppurates, becomes œdematous. This œdema is merely a swelling of the cellular tissue. It is more or less extensive according to the position and extent of the part suppurating, which indicates a relation to exist between the latter and that which swells, producing a reciprocal action and reaction. This, according to him, proves the existence of the tonic action, which, in a preceding part of the essay, he supposed to exist in this tissue.

Worms in the alimentary canal in children, cause a swelling of the face. During the approaches of the catamenia the same effect is noticed about the eyelids. The various passions of the mind, affections of the gums, of the stomach and hypochondria, occasion

a nearly similar effect on the face. This is explainable by the close connexion existing between the cellular tissue of the face, and that of the head, œsophagus, trachea, and all internal parts. It is, in fact, a point on which all parts of the body may act. Some individuals, affected with hydrothorax, who lie on the affected side, are relieved by the accumulation of the water externally; the fluid being carried forward as far as the middle of the sternum, and posteriorly as far as the spine. Bordeu says he saw a leucophlegmatic patient in whom the swelling of the cheek on which he lay subsided, but the tongue swelled to such an enormous size, particularly on the same side as the affected cheek, that it formed a large œdematous mass, protruding out of the mouth. He, in like manner, calls attention to the fact, that suppuration in the finger or wrists will excite a swelling in the axillary glands, whilst suppuration in the feet will produce a similar enlargement of the inguinal glands, and vice versa.

Bordeu further remarks that he saw a case, in which, after a suppuration in the fore arm, the axilla became affected, and next the parotid gland. He also had occasion to notice, that whenever these parts suppurated in consequence of external diseases, the humours penetrated the body by the affected side, after having progressed from the wrists to the axillæ and neck, or from the leg to the knee, groin, &c. All these facts he refers to the communication of the cellular tissue. This of course may occasionally be correct; though we believe that Bordeu's view of the progress of the disease is too exclusive; many cases of diffused inflammation of these parts being explainable on the principle of absorption, which, we all know, is accomplished, not by the cellular membrane, but by the lymphatics or veins. Be this, however, as it may, all the facts we have noticed, and many more, which from want of room we cannot here detail, prove, according to our author, that there exists a reciprocal action in the state of disease, between the external and internal parts, and that consequently the same must hold good also in the healthy condition of the system. After endeavouring to illustrate this position, he confesses that it is difficult to determine with accuracy the precise order of these efforts, and of the derangements resulting from them; nevertheless, he thinks that they are regulated by precise and positive laws, and, in proof of this opinion, remarks

"It is easy to demonstrate, for example, that the derangements of the pleura produce a greater impression on the upper part of the body, on the face, arms and hands, than those of the peritoneum. These act in a considerable degree on the inferior parts, in which it is always necessary to distinguish what depends on the general weight of the whole body, from what depends on the diminution or increase of action of the cellular tissue. There are also some parts of the trunk which act, as it were, indifferently on the superior or inferior extremities. This may be noticed in affections of the liver and spleen, the departments of which extend to the whole of the side in which they are situated. And wherefore does this occur? because these viscera are situated, as it were, at the extremity of the pleura and peritoneum; they are united to the diaphragm, the movements of which extend, as we have already said, upwards and downwards. It is not surprising, therefore, that the parts of the abdomen should occasionally act upon the superior extremities, which those of the chest should act upon the inferior. We have seen tumours in the mesentery give rise to cough, expectoration and dropsies of the chest, and pain of the testicle, correspond to the mamma of the same side. We have also seen swellings in the scrotum, thighs and knees, in consequence of affections of the lungs, &c."

The action of the cellular substance is sometimes evident even in cases in which there is no point of suppuration, as. for example, in rheumatism of the superior and inferior extremities. Those affected with this disease are not able to breathe without experiencing an increase of pain, which is greater during inspiration than expiration, owing to the action (tiraillement) which the motion of the diaphragm occasions in the whole cellular tissue.

Bordeu next proceeds to make the application of his theory of the cellular tissue to the history of diseases, but confines his remarks to those of the chest. Many of the aphorisms and prenotions of Hippocrates, leading to the supposition of the existence between certain organs, of a communication which anatomists could not discover, were rejected as unfounded, although the phenomena of diseases demonstrated daily their correctness, or were attempted to be explained by various and sometimes absurd hypotheses. It is by means of the communication existing between the various parts of the cellular membrane, that Bordeu endeavoured to account for them, and although we cannot concede to him *entire* success, yet we believe that in many cases he came as near the truth as we could possibly have expected him to do. We shall transcribe a few of his observations on the sub-

ject here, merely to show the manner in which he reasoned pathologically.

Hippocrates remarks (*Coac. No.* 18.) that when suppuration of the lungs is attended with pain in the neck or clavicle, and sometimes about the abdomen, these symptoms announce that the collection of matter is considerable. Bordeu finds the explanation of this sentence in the distribution of the cellular membrane of these parts; since the sack, enveloping the lungs, sends projections (productions) along the trachea and neck, and also towards the diaphragm and abdomen. It is, therefore, evident, according to him, that a large abscess, situated in the respiratory organ, may affect (tirailler) the whole sack, and occasion a remarkable impression towards the abdomen and neck on the diseased side. This, he believes, occurs whether the abscess be contained in the substance of the lungs itself or in the sack of the pleura. He remarks that these phenomena were explained, in the old schools, nearly in the same manner as by him, but that the modern schools diverted the attention of pathologists from this explanation, regarding it as too difficult to reconcile with the laws of the circulation of the humours, in the arterial, venous, and lymphatic vessels.

"We must here, he adds, make a remark which is applicable to the subsequent observations; namely, that we may allude here only to the mode of action of the cellular tissue, and not to that of the vessels and nerves of each part. It is certain that the function of every organ is exercised, in health and in disease, through the medium of the nerves, vessels, and cellular tissue. The only way of combining the action of these three different causes, is to examine them at first, one after the other. We restrict our remarks here to the cellular tissue, and it is to it we refer in a principal manner, the phenomena described in the above sentence of Hippocrates."

Hippocrates remarks (*Coac. No.* 107.) that swelling of the parotid gland may be expected when the breathing is difficult, and accompanied with tension in the hypochondrium, acute fever, and some chills. Also, (*No.* 128.) that bilious subjects, when affected with acute fever, tension in the hypochondria, and difficult breathing, are liable to abscesses in the vicinity of the ears; finally, (*No.* 32.) that those affected with continued fevers, attended with frequent and slight perspiration, and tension in the hypochondria, are dangerously ill, if to those symptoms there supervenes an acute pain in the region of the neck. Bordeu admits

fully the correctness of these observations, though he is far from believing that abscesses behind the ears, and acute pain in the neck, invariably supervene in patients affected in the way described by HIPPOCRATES, since, by judicious and active treatment, these accidents are often prevented. According to him, the position and mechanism of the cellular tissue of the thorax, fully serves to explain the first sentence. He thus accounts for the symptoms detailed by HIPPOCRATES. The sensation of tension arises from a congestion of that part of the basis of the cellular sack which is united to the diaphragm, and of the tissue lining all the external surface of the hypochondria. The difficult breathing arises from a similar engorgment in the substance of the lungs of the same side, and in the cellular tissue lining the ribs. The chills are the symptoms of the *irritation and uneasiness of all these membranes.* In these cases, BORDEU thinks that the parotid gland swells, because it is situated precisely at the extremity of the cellular sack of the lungs, at that part at which it is united with the cellular membrane of the interior and exterior of the neck. He adds, though, we believe, rather too much in the spirit of the humoral pathology, that towards this point all the moveable and concreted humours, all the efforts of the disease are directed, and thus form an abscess. We have no room for his explanation of the second sentence, which, he remarks, is a consequence of the first. As respects the third sentence, BORDEU conceives that it may be explained in the same manner as the first. But here, instead of the swelling of the parotid, there is an acute pain in the neck, because the crisis is changed into a spasm, and into a painful effort, which prevent the swelling of the parotid, in the same manner that a violent colic prevents the secretions of the abdominal viscera. It would be better for the patient that the parotid should swell, because, in such a case, the matter would not stagnate in the lungs, and occasion a gangrenous depression. This last effect, BORDEU thinks, occurs in some cases of pleurisy or pneumonia, in which the matter of expectoration penetrates the exterior of the lungs instead of reaching the trachea.

We have already so far exceeded the limits of this article, that we are constrained to omit transcribing several paragraphs we had marked in the volume before us. Our readers must have seen, from what precedes, that although, in the writings of BOR-

DEU, we may readily discover enlarged physiological views, and pathological hints which contrast advantageously with the doctrine that reigned in the schools at the time he flourished, and upon which many of the theories of the present day have been built, he was still too much clogged by an attachment to the humoral system, to have carried the science of pathology to a great degree of *perfection.*

The present work concludes with some strictures upon the views of VAN SWIETEN and BOERHAAVE, in regard to the nature of pulmonic diseases, and to the practice they recommend in such cases. Regarding these complaints as depending, in most cases, on an accumulation of humours in the cellular tissue of the lungs and surrounding organs, he appears to have confided in a great measure in emetics, without neglecting, however, the moderate employment of the lancet. We need hardly say what we think of this hypothesis.

QUARTERLY SUMMARY

OF MEDICAL AND SURGICAL INTELLIGENCE.

I. ANATOMY.

1. *Notice of a double Male Fœtus.* *By* W. E. Horner, M. D. Adjunct Prof. of Anatomy. *Philadelphia, Aug. 17th,* 1826.

The duplicity in this case, was marked, by the front surfaces of the two trunks adhering together, face to face. From the evidences on dissection, as well as externally, this anormal production had enjoyed uterine life for six months. It had suffered from putrefaction, owing to some delay in getting it; hence, the central portions of the nervous system, that is, the brains and spinal marrows were in a dissolved state, and I was left to the inference of their having been evolved by the state of their membranes, and the abundance of their relics.

One of these fœtuses had the trunk, the head, and the limbs fully developed; for the sake of a short term, and the want of a better, I shall call it the *parent* fœtus; the other was very imperfect, and I shall call it the *parasite.* For the purpose of elucidating a very intricate structure, I shall divide the description into the peripheral or exterior appearance, into the state of the abdomen, into the state of the thorax, and into the vascular arrangements.

Peripheral appearance.—In the parent there is no deformity in the head, the neck, the limbs, and the posterior face of the trunk. The parasite has the head and neck perfect, and as large as in the other; upper posterior part of the trunk perfect; no right upper extremity, except the very imperfect rudiments of a scapula and clavicle; left upper extremity has shoulder, arm, upper half of fore-arm, and a sort of hand hanging loosely by a pedicle at the end of the latter, and having only a thumb and a fore finger. Left lower extremity entirely wanting, not even a vestige of it, or of the os innominatum of that side, for the trunk goes straight down; the right lower extremity looks on a superficial view, as if it were the left; it consists in a thigh, on the left side of the root of which is a tubercle two lines in diameter, and a small pit near it; these may possibly be the rudiments of the external organs of generation; there is a small papilla on the other side of the trunk, which throws a doubt upon the conjecture. The spinal canal is perfect, and by its course enables me to assign the side to the thigh, as the articular surfaces, and the adjoining rudiments of the pelvis were too anormal to point out the fact. In the parent, the external organs of generation were perfect.

The integuments of the thorax of the two were continuous; but on dissecting them, the end of the left clavicle of the parasite was found to have a ligamentous junction with the lower end of the sternum of the parent; their thoracic cavities distinct. The abdomen of the two fœtuses is a common cavity, being a large loose pouch, a very considerable proportion of which is formed by a diaphanous membrane, continuous with the envelope of the umbilical cord; this membrane is double, one lamina is continuous with the skin, and is of course the decidua reflexa, while the other is probably the decidua vera, and is continuous with the peritoneum. The cord is single, and belongs rather to the parent.

State of the Abdomen.—There is but one liver, it hangs from the diaphragm, and is an irregular ovoidal mass, three inches long, and two wide, with a sort of fissure below, for the umbilical vein to enter.

In the parent, a spleen, a stomach, and an intestine, of about half the usual length, reaching from the stomach to the anus—no colon as usual—kidnies and renal capsules perfect; testicles in iliac regions, and four lines long.

In the parasite, a stomach, a small intestine terminating blindly, and about a foot long; no kidnies; renal capsules entire; testicles below them, and about three lines long.

A common diaphragm, or rather the two joining at their anterior margins.

State of the Thorax.—In the parent, a thymus gland—lungs small—heart of natural size and external appearance, but having a free communication between all its cavities. In parasite no lungs,—a thymus gland at the lower end of the heart along side of ascending cava—cavity of thorax consisting in a pericardium—heart of two cavities only, the right auricle and a ventricle, which of course corresponded with the left of the adult, with only a very narrow annular valve at the ostium venosum, not by any means sufficient to affect materially the course of the blood. The ventricle twice as large as usual, thin and having thin scales of bone on its internal surface.

Vascular Arrangements.—The umbilical cord had one artery and one vein, the artery was continued from the right iliac of the parent. The umbilical vein more like an artery, could be traced clearly to the fissure of the liver. In the parent, what may be considered as ductus venosus is one-eighth of an inch in diameter, goes to the posterior part of the diaphragm, and enters the ascending cava; but just before doing so, is joined by a branch of the same size, an inch long, parallel with and just above it; on tracing this trunk it is found to be an arm from a large tortuous ramifying sinus in the centre of the liver. The upper end of this sinus emptied into the ascending cava of the parasite.

In the parasite no descending cava; a venous pouch two inches in length and two or three lines diameter in front of the spine, lower end closed, but upper end emptying into the auricle. Artery from ventricle very much like a vein; on reaching the lower end of the neck, it divided into four

branches, near one another, which in a short space subdivided; these branches could not be traced well from their smallness, but they seemed to go to the head, and upper extremity. The main artery, no valve at its root from the ventricle.

In the parent; the arteria innominata detached a large branch having a course behind the sternum, probably an internal mammary artery, which reaches the lower end of sternum, then passes to parasite, and ascending at the side of its heart, gets to the neck and appears as a common carotid.—Also from the aorta of the parent, just below the diaphragm, a large artery arises, which crosses the ascending cava behind, and passing then to the parasite, adheres to the preceding artery, and ascending along the same side of the neck, seems to have a similar destination.

In the parent an aorta—a pulmonary artery, and a ductus arteriosus; the ascending cava so joins the heart that a probe is passed with equal facility into either of its four cavities.

Owing to the injured state of this monstrosity I could not inject it advantageously, and possibly some important vascular branches escaped notice, notwithstanding a diligent search for them. But if this be not the case, I am entirely at a loss for the explanation of the round of circulation in the parasite.

A leading character in this dissection is the little or rather the no provision made in both fœtuses, to keep the currents of black blood and of red blood, free from one another.

2. *Imperfect development of the cerebral system in monsters.*—Our anatomical section will always be found bare, or filled with researches running in some particular vein, and often savouring more of curiosity than of practical importance. This we say with a certain reserve; as we are of that class who think that a physician will always be a better *practical* man for having an extensive and minute knowledge of anatomy: and, as we never know from what department of knowledge useful science will receive its next illumination, we opine that a physician can never know too much of the structure of the human body, even though no immediate practical application be made of what he is studying, and he follow it only for its interest. This principle of study may almost be considered as forming the true difference between an enlightened physician and the mere empiric or dogmatist.

The real reason why anatomical discoveries of direct, practical application are not numerous, is very well known to all our readers. It is that all the more obvious, larger and more frequently employed portions of anatomy have been exhausted by the geniuses of the preceding ages. Little is left for the ambition of the moderns, but minute refinement and illustrations from the comparative structure of animals; and, where discoveries are made, they are generally involved with physiological investigations.—The present section of our summary will, therefore, seldom cover much space; and, when it does, will probably contain much of the character to which we have just referred.

The subject of monstrosities now occupies a great deal of attention in the French metropolis. It is by no means such a barren collection of unconnected facts as we have hitherto considered; several curious views have been elicited, and some striking and singular hypotheses formed; particularly by the celebrated M. GEOFFROY ST. HILAIRE. In the present state of excitement on this subject manifested by the French physicians, it is highly probable that we shall have articles to notice which will furnish us an opportunity of sketching these views for this melange.

M. TIEDEMANN has published, in the German journal of Physiology, the first essay of his inquiries into the above subject. In order to ascertain the influence, if any, possessed by the nervous system on the development of the fœtus, he asks, and endeavours to reply to, the following questions:

1. When an organ is absent, are its nerves absent too?

2. When supernumerary organs exist, is there a corresponding excess in the number of nerves, or of parts of the brain and spinal marrow?

3. What are those peculiarities in the nervous system, which correspond with a sudden stop put to the development of organs?

4. Is there any peculiar organization of the nervous system, and particularly of the brain and spinal marrow, which universally corresponds to an anomalous organization of the body in general, or of its individual organs; and what is this peculiar organization?

M. TIEDEMANN has collected, in reply to these, a large number of cases, from various authors. Of eight, preserved by himself, he has given the particulars.

Two were instances of congenital division of the soft palate, accompanied with hare-lip. In these, the cerebral hemispheres were entirely united on their anterior part, leaving no mark of their usual division; the convolutions passing, without interruption, from one side to the other. The olfactory nerves were entirely wanting; and, in the place of the ethmoid bone, was found a cartilaginous mass, without any foramina. The thalami were united at their upper part, and the anterior part of the fornix was incomplete in its development.

A still-born child, with a division of the velum palati, an umbilical hernia, and a supernumerary finger on each hand, presented the following appearances. Brain forming an entire mass, without any division into hemispheres; olfactory nerves entirely wanting, as well as the corpus callosum, the anterior crura of the fornix, the anterior commissure, and the pineal gland; the lateral ventricles formed but a single cavity, uniting in front of the thalami.

SŒMMERING and RUDOLPHI cite analogous cases.

A puppy was born without eyes, the orbits being filled with cellular substance. The optic nerves were reduced to two slender threads, originating from the thalami and the *anterior* pair of the tubercula quadrigemina; they passed round the crus cerebri, and terminated, without any

union, immediately in front of the pituitary gland. The other nerves of the organs of vision were entirely wanting.

Analogous cases are furnished by MALACARNE, HIMLY and SCHMIDT, OSIANDER and LOBSTEIN, besides others, which are imperfectly described.

A fœtus was born with but one eye, without any nose or other part of the olfactory organs, with a supernumerary finger on each hand, and six toes on the left foot. Instead of the nose, he had a *trompe* fifteen lines in length, hanging from above the eye. The eye had four eyelids, placed in a quadrangular manner. It was in front, oblong horizontally. The brain was a single smooth mass, forming neither hemispheres nor convolutions. The olfactory nerves and ethmoid bone were wanting. The optic nerves entered the orbit without any junction. The eye was double at the posterior part.

In another case, the same external characters were found. The eye was here single at the back part, and there was but one optic nerve, formed by the junction of filaments from both the thalami and both the corpora quadrigemina. The brain formed a single mass, without convolutions or division into hemispheres. It was so small that the cerebellum, corpora quadrigemina, pineal gland and optic thalami, were all left uncovered at the posterior part. The corpora striata were wanting, as were also the ethmoid, os unguis, and os turbinatum inferius.

Our readers will observe that we prefer the terms "tubercula quadrigemina" to those in common use. Since the dissections of SPURZHEIM and SERRES,* and of those who have repeated and verified them, it may be considered settled, that the bodies in question are really a single pair. They are found so in all the lower animals, though often increased, as in birds, to such a size as to have been mistaken for the optic thalami; and exactly the same structure exists in the early stages of the human fœtus. The optic nerves draw the remotest of their origins from them; and there is not the least ground for ascribing any difference whatever of office or function to the anterior pair. We conceive, then, that we have a fair right to hope that the absurd and indecent names now applied to them will fall into disuse. We may observe that this has been the case pretty generally among the English; so that we no longer possess their example in our favour.

Another fœtus, examined by M. TIEDEMANN, presented a truly monstrous conformation. In addition to the single eye, and the trunk hanging from above, there was a smaller trunk placed below it. Both jaws, the lips, and the whole mouth, were wanting, except a small opening which led to the larynx and œsophagus, and the rudiments of a tongue, two lines long, attached to the os hyoide. The nasal cavities, all the bones and muscles of the face, the masseters, and the salivary glands, were missing. In the place usually occupied by all these organs, were found two well-formed ears, looking from the sides of the head downwards and forwards, and with their lobes uniting near the perforation which was substituted for a mouth.

* Vide a review of *Serres's* great work, in our first number.

This hideous and appalling object presented a brain, devoid, like the preceding, of hemispheric division and of convolutions, and wanting the pituitary gland, mammillary eminences and olfactory nerves. The optic nerves united into a single trunk previously to entering the orbit. The second and third branches of the fifth pair, the portio dura, and the ninth pair, were all alike absent.

Another example is given, in the monstrous fœtus of a hog; but, as it closely resembles the last case but two, we shall omit the particulars. The cerebral deficiencies were of the same kind. We should, indeed, have been inclined much sooner to look for such trumpet ornaments upon the face of a pig than upon the lordly countenances of our own breed; but nature seems here to have been somewhat inclined to bid

"Selfish pride confess her *kindred* forms."

Monoculi.—The above catalogue of Polyphemuses naturally seems to introduce a sketch, from the same article, of the anatomical characters generally found in these elegant productions.

This malconformation occurs both in the human species and in quadrupeds—most frequently in sheep and hogs. The female sex seems more liable to it than the male.

It is always characterized by the entire want of the whole olfactory apparatus, including the bones; and, almost always, by that singular trump or trunk, described in the above cases, hanging from above the eye, and evidently forming the rudiments of an external nose.

In many Cyclopean monsters, the mouth is wanting; and, in some, it is replaced by a small trunk. The tongue is here wanting or rudimental; and the whole apparatus of mastication is absent. In other instances, it is only the lower jaw and tongue which are absent. The absence of the mouth is commonly the circumstance on which depends the strange position of the ears, noticed above.

In the Philadelphia Museum are three specimens of puppies, presenting an analogous structure, which were said to have their ears where their eyes should be.

Symphysopsy, as Mr. Breschet calls it, is frequently accompanied with deficient development of the cranium. Double monsters are also liable to it; presenting one eye on each side, and a third, much larger, in the middle.

Four eyelids are commonly found, presenting a quadrangular figure, in the upper and lower angles of which, are carunculi lachrymales and puncta.

The eyeball is always very large, and oval horizontally. Rarely it appears double in front, but more frequently so behind. Two distinct irises have never been found; but very frequently two have been so united as to form a long, oval pupil. The choroid is single, and the retina generally so; but the ciliary body and the humours of the eye, in this respect, follow the iris. There are generally two lachrymal glands, and a very intricate web of muscles.

The brain is unnaturally small, without convolution, division into hemi-

spheres, corpus callosum, or olfactory nerves. Those branches of the fifth pair, which appertain to the nose, exist, but are transmitted to the trunk. The absence of the olfactory nerves is always accompanied with a diminution of the corpora striata, and of the anterior crura of the fornix. Mr. G. R. Treviranus has observed that there is a peculiar connexion between these nerves and the fornix and cornu ammonis.

There is generally but a single optic nerve, formed by the fibres from both sides. Where there are two trunks, there is no semi-decussation. Magendie has stated that he once found a retina, but no optic nerve. M. Tiedemann thinks he must have made a mistake, as this result is entirely at variance with the usual course of things.

The absence of the nerves of the fourth always accompanies that of the trochlearis muscle.

The only conclusion of M. Tiedemann's, with which we are furnished in plain terms, is one so obvious from the above, that we shall not recite it. Another article is promised us on the same subject.—*Bulletin Medicale, Avril.*

3. *Imperforate vagina. Infibulation?*—A woman, born in Africa, died at a Parisian hospital, aged forty-eight years, in whom the labia were found united by a regular raphé, throughout their whole extent, excepting a small hole at the bottom, allowing the escape of the menstrual fluid. MM. Dumeril, Dubois, and Beclard, are strongly inclined to the presumption, that this was produced by the barbarous practice of *infibulation.—Ibid.*

4. *Fallopian tubes.*—Von Weber, professor of anatomy at Leipzig, has found that the Fallopian tubes of the *otter* do not terminate in the peritoneal cavity, but in a vesicle, in which the ovarium is placed; thus rendering abdominal gestation, unless from rupture, impossible. Mr. Treviranus, having been informed of this discovery by the author, found that, in the European Martin, the horns of the uterus terminated directly in a similar vesicle, and there were no Fallopian tubes at all. A suspicion is hinted by M. Stoeber, the analyst, that this was an anomalous case. Albers finds a similar vesicle or pouch in the common seal, (*phoca vitulina,*) but does not describe the termination of the Fallopian tubes. Lobstein found the pouch in the *phoca monachus*, but he found no communication between this and the tubes.

Mr. Treviranus inclines to think that there is a similar organization, prevailing in the bears and all the weasel tribe.

In the rodentia, the Fallopian tubes have no fimbriæ. Mr. Treviranus has found, in the guinea-pig, a muscle, whose office is to turn round the ovarium, so as to bring it in contact with the orifice of the tubes.—*Bulletin Medicale, Mai.*

5. *Monsters.*—In the May number of the above Bulletin are accounts from M. Lieber, of Berlin, of a production of the uterus, which was at first taken for a mole: but which subsequently was found to possess several parts of a real fœtus. Such were a mouth, an anus, the cutaneous rudiments

of a foot, many bones, imperfectly formed, of the head and trunk, the temporal muscle, those of the eye, &c. Neither brain nor spinal marrow was found. All the vessels arose from those of the umbilical cord, without the least rudiments of a heart. The lungs, liver, spleen, pancreas, organs of urine, and those of generation, were absent. A very short intestinal canal was found; and the colon *contained meconium, notwithstanding the absence of the liver.* This last observation militates pretty effectually against the doctrine, which has some grounds, that the black colour of this meconium is produced by carbonaceous matter, which it is the duty of the liver to discharge, during utero-gestation, as partial substitute for the lungs.

Another cyclops is described, from a dissertation by Mr. KNAPE, also of Berlin.

Another, from the horse, is described by Mr. J. RUBEN, of the same city. In this monster, a large tubercle was found at the anterior part of the cranium, from which issued the optic nerve. This was pronounced a thalamus nervi optici. This, with the tubercula quadrigemina, cerebellum, and pons varolii, were all the parts of the brain to be found. The olfactory nerve was wanting, as would be inferred from what we have said above; all the other nerves were as in common.—*Ibid.*

6. *Fœtus grafted into the chest of another.*—Many of our readers will remember a case of this kind, from China, described and figured by Dr. J. K. MITCHELL in our highly respected cotemporary, the Philadelphia Medical and Physical Journal; as well as a frightful porcelain model of it, which decks the mantels of some of our medical friends in this city. One of a very similar character has been published, and figured by Mr. A. ROSENTIEL, also of Berlin. Eyes, nose, bones of the face, and olfactory and optic nerves, were wanting. One tympanum had to serve for two meati auditorii externi, as well as for the *pharynx*, there being no mouth. Two tongues, two ossa hyoidea, one œsophagus, one cricoid cartilage and trachea, the parasite body infixed in the thorax of the principal one, by the neck, the thorax of the parasite filled with cellular matter, and without ribs; two hearts in the thorax of the principal fœtus, one of them with a single ventricle, mixing the two kinds of blood, a single kidney and ureter in the parasite, and the other urinary organs healthy—such were the characters ascertained. The abdominal viscera had been removed, previously to Mr. R.'s investigations. —*Ibid.*

7. *Fœtus without a stomach, head or anus.*—We believe it has been said that no fœtus was ever born without a stomach. Mr. KALCK, also of Berlin, where monsters seem to be in fashion, has given us an exception to this rule, if it be not already disproved. The skeleton commenced at the tenth dorsal vertebra; the thorax was filled with cellular matter; there was no diaphragm; the intestinal tube began with the ileum; there was no liver, spleen, or pancreas, and the uterus was furnished with horns, like that of some quadrupeds. The other viscera were natural.—*Ibid.*

8. *Congenital hydrocephalus, with transposition of the viscera.*—Mr.

NAEGELE, of Heidelberg, has given us a case of an enormous hydrocephalus, which rendered it necessary to puncture the head during delivery. He afterwards found the viscera of the thorax and abdomen transposed from right to left. He mentions another case of the same kind, which, however, only embraced the viscera of the thorax, and inclines to think this coincidence not accidental.

There were hare-lip, division of the palate, and a great diminution in the size of the optic nerve.

The account of the opening, and almost complete effacing of the convolutions, corresponds with SPURZHEIM's descriptions; the corpus callosum was split.—*Ibid.*

9. *Unusual arrangement of the aortic branches.*—Mr. CLEMENT of Paris, is the describer. The *brachio cephalic* artery, or arteria innominata, was wanting; the two carotids were confounded at their origin, and the right originated below and behind the left subclavian, crossing over, with an inclination upwards, behind the left nervus vagus, left subclavian artery and carotid, the œsophagus and the trachea. It lay immediately in contact with the spine and its ligaments, and with the longus colli muscle.

We have seen an article of a very similar kind, in the collection of Dr. HARLAN, of Philadelphia.

M. CLEMENT has obtained no note of the state of health or living peculiarities of his subject.—*Ibid.*

II. PHYSIOLOGY.

Space compels our physiological article to be short.—This is the less to be regretted, as the journals of the last three months do not present so rich a repast in this respect as we have been frequently treated with.

10. *Influence of the great sympathetic nerve on the functions of sense.*—M. TIEDEMANN, in a memoir, read before the Society of the Natural Sciences and Medicine of Heidelberg, has furnished a long inquiry into this curious subject. As, however, the principal part of his task seems to have been to prosecute chains of reasoning, without materially adding to the list of facts already possessed on this subject, our notice of his labours needs not be long: it may be, indeed, far briefer than one would be inclined to expect or wish from the writings of so deservedly eminent a man.

The sympathetic is not, according to M. T., the means of transmission, either of sensation to the brain, or of the influence of volition from the brain to any muscles of voluntary motion. But the internal or external excitations which produce automatic and involuntary movements, seem to be owing to this nerve. One of its most important functions is to unite, so intimately, all the organs, both to the life of nutrition, and to that of relation or voluntarity, and to establish between them such a vital connexion of re-action and sympathy, that the functions may be executed in harmony.

It also presides over that support of the general activity of the organs, which is derived from nutrition.

In the organs of sense, then, the particular object of the present inquiry, the sympathetic acts by regulating the nutrition and secretions of the parts, and their sympathetic motions. Thus, in the first place, the due condition of the aqueous humour, crystalline lens, &c. &c. must be preserved, or the function of sight will be immediately at an end; and this is the product of the functions of nutrition and secretion. The sympathetic establishes a connexion between the impression of light on the retina, and the contraction of the iris: this is also the effect of branches of the great sympathetic.

The nerves of the iris come from the ophthalmic ganglion. He has satisfied himself that, besides the central artery of the retina, the ciliary arteries also send minute branches to the optic nerve and the retina, which arterial twigs are accompanied by minute nervous branches from the ciliary nerves and the ophthalmic ganglion. By this route the contraction of the iris is determined, and not by the intermedium of the retina, as supposed by many writers. This explains the occasional continuance of the motions of the iris, during amaurosis.

We have views of our own in this point which we have taught to others, but this is not the place to enlarge upon them. Our present office is to present the opinions of M. TIEDEMANN.

The reader may naturally inquire why all these functions of the ciliary nerves are set down to the credit of the great sympathetic. We would say, that the expressions used are incorrect. They are functions of nerves belonging to the *ganglionic system*, and of fibres, coming from a ganglion, which is connected with the sympathetic. The usage of Europe seems, however, to admit of the whole ganglionic system as emanating from that nerve.

11. *Cutaneous absorption.*—Dr. DILL, who has recently graduated at Edinburgh, and whose thesis is reviewed in JOHNSON's Journal, gives us a sketch of the opinions and experiments of various writers, ancient and modern, respecting this alleged function. He adds experiments of his own, the results of which varied, he states, "quam maximé."

"Annotatu nihilominus dignum est, quod in omnibus experimentis supra memoratis, exitus esset unus, quadam ex parte saltem generalis. In iis, ubi nihil ponderis accessit, constitutionis jacturam inter immersionem quam antea minorem esse semper compertum est."

From this, at least as far as the reviewer quotes, we can infer, absolutely, nothing decisive, except from the presumed experiments, the history of which is not furnished us in the review, in which the weight was actually increased. We will not blame an essay which is not in our hands; but JOHNSON's analysis of it has not convinced us.

Dr. DILL believes that absorption takes place, in a degree various according to the state of the habit: more during fatigue and exhaustion, and less in proportion to the heat of the bath.—*Med. Chir. Review, July.*

12. *Abstinence.*—An extraordinary case is presented by Dr. Ricci, of Turin. Anna Garbera, silk worker, aged forty years, of a sanguineo-nervous temperament, and enjoying tolerable health, had used but little food for several years, made but one meal per day, and went to stool but once in three or four days.—She passed forty days without eating or drinking; then took some food; and, on September 8, 1825, was seized with an indigestion, after eating some crude aliments.—She was vomited freely, with ipecacuanha: an entire loss of appetite, with dysphagia, continued; and, from that time to January 1st, of the present year, she could take, says Dr. Ricci, neither solids nor liquids, nor did any discharge of urine or fœces take place.

She appears to have been a respectable woman.—Dr. Ricci considers her affection as a neurosis. Our readers will recollect the case of Ann Moore, the fasting woman of Tutbury; which the present case is far from equalling in duration, though perhaps quite as great a wonder.—*Bulletin, Juin.*

13. *Hippomane Mancinella.*—Messrs. Orfila and Ollivier have made experiments on this poison, from which they conclude that it stands at the head of the acrid and irritating vegetable poisons, as the strongest known;—producing violent inflammation of the parts it touches. When applied to the cellular substance, they believe it acts in part by absorption.—*Ibid.*

14. *Cutaneous absorption.*—M. Collard has performed and had referred to a commission of the Academy of Medicine, several experiments, in which he endeavours to show, by measurement, the direct absorption of water, milk, and broth, by the skin. He appears to have forgotten the mechanical absorption of these substances, which always takes place by the cuticle. His experiments did not give satisfaction to the commission, which consisted of MM. Roux, Adelon and Segalas.—*Ibid.*

15. *Regeneration of divided arteries.*—Professor Mayer, of Bonn, has published a series of experiments on this subject. His results agree with those of Dr. Parry.—The artery is found retaining its natural size quite up to the place of division; and at this point, lateral branches, following a tortuous course, are found to have been newly produced, uniting the two divided extremities.—*Ibid.*

16. *Certain mineral poisons—The muriates of barytes, of oxide of uranium and of oxide of palladium,* coagulate the blood when injected into the veins. These three bases are the only ones which produce that effect.

Chromate of potass, applied to the cellular tissue, acts on the bronchia and augments the secretion of saliva, which becomes thick. (A new sialagogue!!) It also produces inflammation of the conjunctiva.

Oxide of osmium produces vomiting, and, in the lungs, excites the exhalation of a serous fluid.

Sulphate of Manganese, injected into the vascular system, acts obviously on the face, produces inflammation there, and augments the secretion to

such a degree that "the great vessels themselves are coloured yellow."—*Experiments of C. G. Gmelin—in the Bulletin.*

III. PATHOLOGY.

17. *Are we followers of Dr. Broussais?*—This question has been asked; and, though we think an answer might be fairly inferred from our previous pages, we are too well aware of the nature of medical controversy, to hesitate at giving a distinct statement in return.—Our reply then, is, No.

In planning this journal, among various other considerations, it was held in view, as a measure of importance, to combine men of different habits of thinking, and of various opinions relative to medical doctrines. No other method can possibly ensure entire fairness in setting forth the ideas of others; a merit which is our earnest aim, as far as it is attainable by us.—Our individual views being therefore diverse, the opinions expressed in this section of the work, relative to the French reformer, are only to be considered as those of the single individual who prepares it for the press, not unfrequently differing from that of his compeers, who exercise the same liberty of choice, in their turn.

We are, then, (still speaking under a single responsibility, though convinced each of us is separately of the same way of thinking,) we are, then, *eclectics;* willing and anxious to borrow medical knowledge from every source whence it is derivable.—The experience of a number of eminent men, and a practical acquaintance with the peculiarities and effects of our climate, have produced much valuable knowledge, which we could not, without a sin, reject, in order to comply with any system or doctrine in existence.—America, too, has done more, far more for the medical sciences than the Europeans seem generally to be aware. Yet it must not be forgotten that America forms but a small part of the medical world; and that the inundation of facts from abroad would soon effectually place the rest of mankind far before us, were we to neglect them. Paris, too, is at present, the seat of a prodigious excitement; and the multitude of physicians who are there working for reputation, with only the more ardour, because they have no private practice to attend to, is, perhaps, greater than in any other spot of the known world.* Their enormous hospitals furnish these with an inexhaustible opportunity of acquiring that experience which they have not reached in the walks of private practice. A succession of works of a description eminently *practical,* is constantly issuing from their medical press; purporting to be based upon a congeries of cases attended and recorded before the eyes of numerous students, who examine and compare the notes. Are we then to sit, folding our arms in supercilious contempt of these labours, refuting every new discovery with a conjecture, or slighting every minute and careful description of a morbid phænomenon, with

* A late statement in a gazette describes the number of physicians in Paris to be 600! In Philadelphia we have about 200.

what ought to render it more interesting; the remark that we have witnessed it before, though we never took the trouble to describe it? The answer which would be given to this by the good sense of our countrymen needs not to be waited for.

One word more, before we conclude, to those whose nervous systems are unpleasantly affected by the sound of "*gastro-enteritis.*" Gastro-enteritis really exists! There is such a thing! It is no joke, nor "figment of the brain!" Ay, and leeches to the stomach have been beneficial in fevers, too; and this before abundance of witnesses. Only to refer to our last number, we shall there find, that our venerated townsman, Dr. MONGES, in whom so much confidence has been so long and deservedly placed, especially in this particular case, makes a gastro-duodenitis of Yellow Fever. This is the result too, not of hypothesis or authority, but of observation of the symptoms during life, and the morbid appearances after death—a result confirmed as it now is, by the general consent of physicians that this forms at least a leading part of it.

The descriptions of gastric inflammation, given by BROUSSAIS, correspond with many of those preserved among the writings of the chiefs of medicine. That which is properly called his school embraces a numerous list of men who add experience to talents. His writings have also had a great influence over the minds of those who have not enrolled themselves under his banners; and the public documents show that the consumption of leeches in the Paris hospitals has increased enormously, perhaps fourfold, since the promulgation of his opinions—thus distinctly proving the *general* influence of a belief in the more frequent existence of local inflammations.—His ideas and general mode of thinking are distinctly visible in many of those essayists who give such a high value to the great French medical dictionaries.—Records of a public character all show great success in the treatment of fevers in the French military hospitals in Spain—a climate very similar to our own, particularly in our warmer latitudes. Many of the present British writers, too, show that they have either borrowed ideas from this modern school, or that they have been led, by observation and reasoning, to analogous principles; as, for example, Dr. SCUDAMORE, in treating of the gastric origin of gout. At the same time, then, that we acknowledge, what we hold it hardy to deny, that gastric inflammation is a fertile source of the symptoms of most fevers, and that there is much reason to believe that inflammation or weaker irritation in the viscera is by far the most frequent cause of the continuance of disease, we are far from feeling obliged to bind ourselves to a *school.* We conceive it to be the duty of every practising physician to compare conflicting opinions, form at least some idea of them, and select from among them those which correspond the most nearly with nature.—Nature, then,—observation and experience are to be sought without ceasing; "nocturna versate mane, versate diurna;" and it is to this test that *doctrines* are to be brought. That practitioner must be indeed in the wrong, who adopts a new code of opinions, on account of

its apparent consistency with itself, without seeking earnestly to compare it with the reality; particularly if he have had opportunities of seeing this reality in the previous part of his life.—Neither ought prejudices to forbid our benefiting ourselves by the writings of those who are labouring to improve medical science, because we have been educated in a different manner.—*Catechisme, et Journ. du Medicine Physiologique, Johnson's Review, &c.*

18. *Influenza.*—This prevailed, last January, in Paris. *Vide Journal de Broussais, February,* 1826, where there is an admirable description of this disease, exactly as it appeared in Philadelphia. It also appeared in Quebec.—*Quebec Medical Journal, July,* 1826.

19. *Diarrhœa infantum* was rife at Quebec, but not the distinct cholera of adults.—*Ibid.*

A very large portion of the population of Philadelphia, adult and infantile, have been affected with diarrhœas during this summer.

20. *Tetanus.*—Dr. Milo L. North has published what he styles a case of *pseudo-tetanus,* arising after a severe day's work, with a "stone-bruise" in his heel. The heel was opened, and the patient recovered in twenty-four hours, after the administration of upwards of forty grains of calomel, half an ounce of laudanum, some Dover's powder and "considerable æther," besides injections. The case seems to have exhibited severe symtoms. Spasms of great violence every ten minutes; but neither pain, permanent contraction of the neck, nor apparent marks of disease in the alimentary canal.—*New England Journal, July.*

21. *Small pox.*—Dr. Blaud, of Beaucaire, has published an account of an epidemic small pox, which appeared at Beaucaire, in France, and his memoir was reported on by M. Bally, to the Royal Academy of Medicine.

In the report, the epidemic which has appeared at Paris was compared with that above cited by the reporter.

At Beaucaire, the small pox appeared to originate *de novo,* without being imparted, so that, according to M. Blaud, it is liable to be generated anew, "by the simple disposition of the air or of our organizations," and that we can never hope to annihilate it by vaccination! M. Bally, on the other hand, believes that germs of this disease are, at present, diffused universally; and that they are only developed by the co-operation of external agents.

This hypothesis, (the other professes to be the record of a *fact,*) reminds us of a report which we heard from a place in the upper part of New Jersey, where the same occurrence was stated to have taken place.—Can any correspondent give us an account of it?

At Beaucaire, one in ten of the cases occurred in a person previously vaccinated, and ran its course without complication, exhibiting a small number of distinct pustules, which left no traces, devoid of the fever of maturation, and having a favourable termination. At Paris, among 584 cases, "57 had the varioloid, and 42 varicella," and of these 99 last, 66 had been vaccinated with success, and 2 had had the small pox before.

M. Blaud ascertained, that, at Beaucaire, among two thousand, two

hundred and eighty individuals who had been subjected to vaccination, six, nine, or, at most, eleven, were affected by this epidemic. He lays down the following theoretical proposition: that the preservative effect produced by the vaccine disease is only complete when the number of pustules produced is in a certain proportion to the susceptibility of the patient to small pox, the requisite number being never less than two, and when, at the time of vaccination, there exists a favourable condition of the organization. He thinks, on these principles, that, of every twenty patients which he has seen, affected by small pox after vaccination, not more than eight can be justly considered as having really undergone the latter disease.

Dr. Pierre Dufresne, of Geneva, has published a long account of an epidemic varioloid disease which occurred at and around Chesne, in Switzerland, in 1822. His history of the disease corresponds in every respect with those which occurred in England and here, and we shall not occupy space by copying it.

His account of the differences between varioloid disease and chicken pox, is worthy of an analysis. These differences are not well characterized; but they exist—varicella is *never contagious!!* consecutive varioloid always is so: varicella has a regular and fixed progress; varioloid has not such, but produces successive crops of pustules, (vesicles:) the chills are more severe in the varioloid, the fever higher, and the anxiety about the præcordia more exhausting.

Varioloid never appears but when it accompanies small-pox, and can never occur spontaneously, or without exposure to contagion.

Of 106 patients affected with varioloid disease after vaccination, there had been vaccinated

less than 2 months	2 to 6 months	6 to 12 months	1 to 5 years	5 to 10 years	10 to 15 years	15 to 20 years
1	2	4	34	36	20	9

From this table, M. Dufresne very fairly concludes that length of time has no effect in weakening the protection derived from vaccination. Other evidence from the British Islands, as is well known, goes to prove the same thing. The contrary doctrine, which never was any thing more than an hypothesis, was referred particularly to the physicians, by the magistracy of Geneva.

One single case occurred in which a confluent small-pox of sufficient violence to disfigure the person, took place in a girl who had been vaccinated in both arms. M. Dufresne has satisfied himself, from a careful investigation of the evidence, that there is room to believe that this girl's vaccination was not a regular one. It was done by a person who was not a physician, and who never saw her afterwards to judge of his success. Nevertheless, she had "marks of vaccination," as M. Dufresne calls them, visible on her arms.

M. Dufresne comes to the following conclusions:

1. The vaccine and the variolous virus have an identical action on the animal economy.

2. This action destroys a part of the capacity for undergoing variola or vaccination with which each individual is endowed.

3. By means of the portion of this susceptibility which remains, each individual is capable of contracting a second small pox or a second vaccine disease, of a nature different from the first, more mild and shorter.

4. To develop this remaining capacity, it is only necessary to apply a sufficient quantity of the virus in a suitable manner.

5. It is more difficult to develop it after the variolous virus, than after vaccination, and vice versa.—There is an error of the press which makes the writer exactly contradict himself in this point. We give it as we understand it, but under a liability to misapprehension.

6. The consecutive affections which result, are, in both cases, abortive during their inflammatory stage; are propagated by inoculation with matter similar to themselves, and have other strong points of mutual resemblance.

From these considerations, M. Dufresne thinks that two operations are necessary to destroy the variolous liability in any individual; but whether we are to vaccinate twice, inoculate twice, or do first one and then the other, and, in the last case, which of them we are to do first, he does not conclude. American experience has abundantly shown, that a very general vaccination, even though not absolutely universal, is quite able to render the adjustment of these questions unnecessary, by extinguishing small pox altogether, during periods of a dozen or twenty years at a time; and, when highly wrought epidemic causes come among us, breaking down our ordinary barriers, of completely limiting and checking the destruction caused by the complaint, and finally, following its retreat, like a harrassing corps after a flying army, ensuring its rapid and total extinction.

M. Dufresne subjected a patient who had been vaccinated, to 24 inoculations at a time, and another, who had had the small pox, to 48. Each inoculation was by a scratch (moucheture) 6 lines long. Both had varioloid disease of exactly the same character.

Dr. Schleiden, of Hamburg, states that there were collected, at that city reports of 1684 patients, of whom 1189 were affected with real, and 495 with modified small pox. Of these there were

	Under 10 years of age	From 10 to 20	From 20 to 30	From 30 to 40	Above 40
	595	892	199	36	12
The mortality was	1 in 6¼	1 in 10¾	1 in 4	1 in 1½	1 in 1½

Thus exhibiting the ages most liable to infection, and those at which the disorder proved most mortal.—*Archives and Bulletin.*

IV. THERAPEUTICS, MATERIA MEDICA, AND THE PRACTICE OF MEDICINE.

22. *Tincture of Iodine in Gonorrhœa, Bubo, Scrofula, &c.*—In the preceding numbers of our journal, we offered some remarks upon the benefit derived, in the treatment of several diseases, from the employment of the various preparations of iodine, and gave a condensed analysis of Dr. Manson's excellent work on the subject. Since that period, we have had ourselves several opportunities of witnessing, in our own practice, the advantageous effects that may be derived from a careful use of this powerful remedy, and intend, as soon as we have sufficient leisure, to lay a detail of our cases before the public. In the mean time, it may not be improper to caution the younger part of the profession against an unguarded use of this medicine, as we think we have, on one occasion particularly, in which it was prescribed for the cure of deafness, seen it aggravate a pulmonary complaint under which the patient was labouring. In his Toxicology, Orfila concludes, from his numerous experiments, 1st, that iodine, when given in small doses, is a gentle stimulant; 2nd, that in large doses it causes death, unless ejected by vomiting; 3d, that when applied externally, it does not destroy life; 4th, finally, that it must be classed among the corrosive poisons. These facts have been confirmed by so many high authorities, that we deem it unnecessary to enlarge upon them here. We shall merely add, that as iodine is a powerful stimulant, it should be carefully abstained from when the stomach and bowels are in a state of irritation or phlogosis. Used with these precautions, we think it will be found highly beneficial in several of the complaints enumerated in our former number; and, if Mr. Richond's observations may be relied upon, in none more so than in cases of gonorrhœa and buboes. This very intelligent physician, whose experience in the non-mercurial treatment of syphilis has already been alluded to by us, appears to have been the first to employ the tincture of iodine in these diseases. So early as March, 1824, he published in the Archives Générales a memoir on the subject, in which, after some general remarks on the effects of this medicine on the system and its modus operandi, he details ten cases out of fifty in his possession, of gonorrhœa, and eight of buboes, all of which were cured in a short time.

Since that period, Mr. Richond, whose opportunities at the military hospital of Strasburgh are very considerable, has made farther trials in these diseases with this remedy, and has commenced their publication in the Annales de la Medicine Physiologique, the number of which, for May last, contains the detail of many cases of gonorrhœa treated with iodine. As respects Mr. R.'s mode of using this medicine, it appears that he does not prescribe it until the symptoms of inflammation have been moderated by leeches, diluent drinks, low diet, tepid bath, &c. When, by these means, the pain has been diminished, and the discharge continues copious, at that period in fine, in which too many practitioners resort to astringent injec-

tions, and at which we find occasionally so much difficulty, even by the aid of our most approved means to arrest the complaint, Mr. R. prescribes the iodine, and seldom fails, in a short time, to effect a cure. We do not hesitate to recommend a trial of this remedy.

Since writing the preceding remarks, we have received the number of the Annales de la Medecine Physiologique. It contains some further observations by M. RICHOND, on the efficacy of iodine in gonorrhœa. Twelve cases are related; in one, the patient was affected at the same time with ulcers and buboes; in another, the gonorrhœa had resisted the employment of copaiva. In all the cases, the iodine was successfully administered.

By Dr. H. A. GOEDEN, (HUFELAND'S *Pract. Heilkunde*,) we are told that in his practice, iodine has proved very successful in scrofula. It was exhibited in four cases. The subjects were from six to twelve years of age, and had exhibited symptoms of the disease as early as the second or third years. The principal symptoms were, swollen and œdematous face; enlarged and hard abdomen arising in great part from swelled mesenteric glands; glands of the neck hard and swollen; in various parts of the body particularly upon the inner side of the legs, a moist, impetiginous, scrofulous eruption, which formed an acrid fluid of so caustic a nature, as to excoriate and inflame the parts in contact with it; in all these cases there was tinea capitis and severe scrofulous inflammation of both eyes. In one of the cases, this symptom was most distressing, both the patient's eyes having been closed for nearly three years, the eyeballs being constantly covered with a copious puriform fluid. Under these unpromising circumstances, and after the ineffectual use of all the remedies commonly resorted to in scrofulous diseases, the tincture of iodine was administered in suitable doses; aromatics were prescribed at the same time, both internally and in the form of baths, and in a short time a radical cure was effected. From these causes, Dr. GOEDEN concludes that iodine is the most effectual remedy in confirmed and fully developed scrofula, and particularly when the eyes, the skin, and the glands, are diseased.

The same author relates two cases of fluor albus acris or malignus, of six years' standing, in which the iodine was successfully administered.

23. *Acetate of lead and tincture of opium in dysentery.*—The use of saccharum saturni in acute and chronic dysentery is not of recent origin, as we find it mentioned by some of the writers of the preceding century. In this country, it has occasionally been used in bowel complaints by Dr. IRVINE of South Carolina, by Dr. HARLAN of this city, and our readers will recollect, that in the first number of this journal we inserted an essay on the use of this remedy in dysentery, cholera infantum, &c. by a very intelligent physician, Dr. MITCHELL, of Frankford, Pa. By most of these physicians it was combined with opium, and found highly serviceable in relieving the tormina, and arresting the bloody discharges so frequently attendant on dysentery.

We have been induced to offer these remarks, from having noticed, in

the July number of the Edinburgh Medical and Surgical Journal, a communication on the effects of these remedies in dysentery, by Dr. Ulic Burke, of Dublin.

Dr. B. does not seem to have been acquainted with the above publications, as he remarks that "the acetate of lead has been often employed in this (dysentery) as well as other diseases, where a powerful astringent has been required; it has also been given (as in the present cases) in conjunction with opium:" to this, he adds that he does not know that it has ever been used to the extent he has done. It will be found, on comparing Dr. Burke's cases with those published by Dr. Harlan particularly, that the latter used the medicine in even larger doses than Dr. B. and also in the early stage of the disease. Be this, however, as it may, Dr. B. seems to have derived great benefit from the acetate of lead in combination with opium. "I was induced, he says, to give a decided preference to this remedy, from its peculiar mode of action. It gave almost immediate relief to the constant tenesmus, which in most cases was highly distressing." But although Dr. B. speaks thus advantageously of the remedy, he remarks, "I am very, very far indeed, from wishing to propose the acetate of lead and opium as a panacea in every case or every species of dysentery." The following are the circumstances under which he would propose its employment. "When the patient is low and weak, either from the continuance of the disease, or from previous bad diet; when the abdominal pain is not constant, not much increased on pressure; when there is little or no fever; and when the tenesmus and exhausting flow of blood from the intestines, form the principal subject of complaint."

We will not pretend to recommend an imitation of the practice, although we are very far from wishing to convey the least doubt of the success which Dr. B. and our medical brethren in this country have derived from these remedies in dysentery. Every practitioner forms, or at least ought to form, an opinion of the efficacy of any remedy in any complaint, from what he has himself seen; this being the case, we may take the liberty of stating, that although our experience with the sugar of lead has not been very extensive, we have seen a sufficient number of trials of it to justify us in expressing the opinion, that *in general* it will not be found as *efficacious* and safe a means of combatting the tormina and tenesmus of dysentery, as we might be led to believe. We have indeed seen it in more instances than one, exasperate these symptoms, and enhance greatly the danger of the case. At any rate, we think it probable that if it can be serviceable in dysentery, it can only be under the circumstances specified by Dr. Burke.

24. *Of the powers of digitalis in palpitatio cordis.*—Messrs. Blaud and Comte have lately published (the former in the Nouvelle Bibliotheque Medicale, the latter in the Journal Générale de Medicine,) cases illustrative of the efficacy of digitalis in palpitations of the heart. Mr. Blaud's cases, as well as one of Mr. Comte's, are presented as examples of true idiopathic nervous palpitations; the second case, described (rather too minutely) by

Mr. C. is attributed by him, with what foundation we leave it to our readers to judge, to a spasmodic swelling or puffiness of the heart, (*boursoufflement spasmodique.*)

The following, described by Dr. Blaud, we transcribe, as abridged in Johnson's Medico-Chirurgical Journal for July. A man, forty-eight years of age, entered the hospital (of Beaucaire, of which Dr. B. is chief physician) on the twenty-ninth of May, having laboured under palpitation of the heart for two months, which had come on suddenly, and without any known cause. The pulsations were rapid, tumultuous, and could not be analyzed by the stethoscope. The patient heard them distinctly himself. The pulse was small, quick, irregular, and intermitting. The respiratory murmur was heard throughout the chest, but yet there was oppression of the breathing. The lips were pale and slightly blue. The man could not lie down at all; no swelling of the lower extremities; digestive organs regular in function. Two grains of digitalis thrice a day. 30th and 31st. The same state; same prescription. June 1st. Considerably better; the same medicines continued. 2nd and 3d. The digitalis was increased. 4th. The pulse was down to thirty-eight, but very irregular. The pulsation of the heart could scarcely be felt. Three grains of digitalis thrice a day. The medicine was continued till the eighth, and then suspended. The pulse was still at thirty-eight in the minute, but regular, and all palpitation gone. The pulse soon arose to forty-two, but not higher, till he left the hospital, which he did in a few days, feeling quite well.

We do not offer this case, although the patient ultimately recovered, as an example of safe practice; for the pulse having been reduced on the fourth of June to thirty-eight pulsations, we think it was somewhat hazardous to persevere in the use of the medicine until the eighth of the same month. Dr. Blaud himself properly cautions the practitioner to watch the effects of the digitalis, and immediately diminish the dose or withdraw it entirely, whenever the pulse sinks below the healthy rhythm, a precaution which he himself does not appear to have attended to in the foregoing case. Dr. B.'s third patient died, as he himself acknowledges, from a too powerful action of the remedy upon the central organ of the circulation.

The following signs are offered by Dr. B. as serving to distinguish these spasmodic palpitations from those which depend on organic diseases of the heart or great vessels. "In nervous palpitation, he says, the palpitations of the heart are unequal, irregular, intermitting, sharp; the heart appears to bound; the extent of pulsation against the ribs is not greater than natural, and the sound of the heart's action is not different in *kind* from that which is heard in health. These signs, though few in number, appear to me sufficient to distinguish nervous palpitations from all other irregular actions of the heart, depending on organic diseases, while its occasional cessation, long duration, sudden disappearance, and unexpected return, together with the absence of those symptoms peculiar to carditis, hydrothorax, &c. leave no doubt in the mind as to the nature of the affection."

We believe with Dr. JOHNSON, that this diagnosis will not always be found correct.

Mr. COMTE's cases are interesting, and corroborate the opinions of Mr. BLAUD respecting the efficacy of digitalis in spasmodic palpitations. We have not room, however, to transcribe them here.

25. *Tartar emetic ointment in Epilepsy.*—In the April number of the Med. Rep. of London, Dr. CARTER, Physician to the Kent and Canterbury Hospital, continues his reports on the cases that were treated by him at that institution. In the present communication five cases of Epilepsy are given, in which it appears the tartar emetic externally applied, proved a very efficacious remedy. In the first case the patient had been affected with the disease ten years, and never free from the attacks a fortnight. In the second case the disease had continued seven years,—the fits returning sometimes several times a day. The third and fourth cases were recent. The fifth was of about a year's standing, and appears to have been the consequence of a blow on the nucha. In the first four cases the ointment was applied to the arm, and the sores allowed to suppurate for sometime; internal remedies, as laxatives in the first case—ol. tereb. in the second, calomel and antimonial powders in the third. In the fourth, general bleeding, mercurial and saline purgatives were resorted to, as well as leeches to the temples. In the fifth case, leeches were applied to the site of the blow—aperients were prescribed, and the antimonial ointment was applied to the shaven occiput. The first patient was discharged, cured in about three months from the application of the ointment. The second was not cured, but the fits were rendered bearable. In the third, the fits were prevented during two months; no sooner, however, were the sores closed, than the disease returned—the ointment was once more resorted to, and the patient had no fits for three months, when she was discharged. The individuals of the fourth and fifth cases were also cured, or at least relieved up to the time of writing the report.

These cases are certainly highly interesting, showing, as they do, the advantage that may be derived in epilepsy from a persevering employment of a powerful revulsive. We are not at all willing to attribute, in these cases, any specific effect to the tartar emetic ointment, or to admit more benefit from it, than could have been derived from any other revulsive means, of *equal* strength, and equally long used. So far, indeed, from entertaining this opinion, we think it very likely that strong blisters, the ammoniacal caustic of Dr. CONDRET, or the actual cautery would have been found as beneficial in the above cases as the tartar emetic, which, however, deserves the preference, as being more easily kept in a state of suppuration than the former, and less painful than the others. At any rate these remedies can only be viewed as auxiliary means, and should in but few cases only, be relied upon to the exclusion of other remedies, in the treatment of this formidable malady.

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Annales de la Medecine Physiologique, contains a short but sensible essay on "the cerebral irritation called Epilepsy," by Dr. Drecq, of Moulins, in France. Dr. D. relates three cases of the disease, in which the antiphlogistic plan appears to have been sufficient, without the use of *specifics*, to effect a cure. In one of the cases the patient was eight years of age, and had been affected with the disease eight months. The fits returned every twenty or twenty-five days: The face was red, the looks stupid, the head large: during the paroxysms a little blood was discharged from the nose. About eight days before the usual period for an attack, leeches were applied behind the ears, and in the nostrils; the warm bath was directed, and cold affusions to the head. By this treatment the fit was retarded more than two months. It occurred on the 27th of August, but was as violent as the preceding ones. The antiphlogistic treatment was continued; on the 16th of October a slight attack; leeches to the arms, cold applications to the head. On the 2d of January a rather more violent attack—same treatment continued—leeches applied to the temples every twenty days. This plan was persevered in during six months, and up to the time of publication the patient had been free from the disease.

In another case the disease was recent—the attacks recurring nearly every month for some time—afterwards less frequently. The antiphlogistic treatment, consisting of general bleeding, of leeching to the jugulars and anus, and a low diet, was successfully resorted to.

In the third case the disease was complicated, with gastric irritation. The treatment which consisted of general bleeding, leeches to the jugulars, anus, and epigastrium, was completely successful.

27. *On the efficacy of Nitrate of Silver in the treatment of Zona or Shingles.*—This disease, which by Bateman, Plumb, and other English writers, is denominated, after Suavage, *herpes zoster*, and by Alibert, *dartre phlyctenoide ou Zone*, is exceedingly troublesome to patients, and on this account, deserves to attract the attention of the physician. By Dr. Bateman it is said, that "it is scarcely necessary to speak of the treatment of a disorder, the course of which scarcely requires to be regulated, and *cannot be shortened by medicine.*" Although we cannot, in this country, admit, in all cases the correctness of this latter part of the above sentence, having seen the disease yield occasionally to the local employment of corrosive sublimate, Citrin ointment, and the like, we are nevertheless disposed to regard it as among those that are the most difficult to cure. From this circumstance we have been induced to direct the attention of our readers to a short essay published by M. Ernest Geoffroy, in the number of the Revue Médicale for April 1826, on the local application of lunar caustic in this complaint.

"The analogy" says Mr. G. "which this complaint presents to small pox, suggested to Mr. Serres a mode of treatment of which no physician had hitherto made use. It occurred to him that the ecroctic method which had been successfully employed in some cases of small pox, might be bene-

ficially applied to the treatment of zona. The object of this ingenious means is to relieve the patients from the acute pains they experience even a long time after the complete removal of the eruption."

Mr. G. relates three interesting cases—the first of which was communicated by Mr. SERRES; the second observed at the Val de Grace, and the third treated in the service of Mr. LISFRANC and under the immediate charge of Mr. G. In all these cases the treatment was completely and quickly successful.

We may add here, that although Mr. SERRES may deserve credit for first using lunar caustic in this particular species of herpes, other physicians have certainly employed it long before him in other species of the same disease. We ourselves, more than six years ago, had occasion to treat in a boarding school of this city, more than twelve young ladies affected with *tetter*. Lunar caustic was the only means resorted to, and proved highly successful. We have ever since pursued the same practice in such cases. We do not state this with a view of claiming the credit of originality, as we had before seen the remedy used by other practitioners.

28. *On the remedial effects of Camphor in Acute and Chronic Rheumatism.*—The number of the Revue Médicale for May last, contains a long essay on the remedial effects of camphor in acute and chronic rheumatism, which we think entitled to some notice in this place. The author, Mr. DUPASQUIER, endeavours principally to show the advantage that may be derived from the camphor fumigation, in cases of flying rheumatism. Whether or not camphor has been long used in this form in this complaint, and whether the credit of originality in this respect is due, as maintained by Mr. DUPASQUIER, to M. CHEZA, who published some observations on the subject in a thesis presented to the faculty of Paris in 1808, we shall not here pretend to decide; sure it is, however, that we find nothing in relation to it in the best works on that disease, or even in Mr. RAPOU's elaborate work, "sur la medecine fumigative." Be this as it may, Mr. D. after relating several cases illustrative of the efficacy of this means, and which seem to us pretty conclusive, offers some observations on the modus operandi of camphor in rheumatism and other complaints, when used internally, or when employed as an external application. We cannot enlarge upon the subject here, but content ourselves with stating that from Mr. D.'s researches, it follows that camphor, though entitled from its effects, to the appellation of a local stimulant, produces secondarily a sedative action on the nervous system. Considering rheumatism as a nervous disease, he remarks, that, we may conclude that camphor when applied externally in the form of fumigation, puts a stop to acute rheumatism, "by destroying the inflammatory state by means of a powerful revulsion, and after its absorption by the skin and pulmonary organ, by combatting the general and primitive cause of this disease by means of its secondary effect, which is a true sedation of the nervous system."

Mr. D. remarks that camphor may be used in rheumatism either inter-

nally or externally. He prefers the latter method, and as we have seen, applies the remedy in the form of vapour. He adds that he has usually succeeded in this way, and has not found it necessary to employ it at the same time by friction and internally, as was done by Mr. CHEZA. In some cases, Mr. D. makes use of general and local bleeding before resorting to the fumes of camphor.

Mr. D. recommends, for the administration of the fumigation, one of the basins invented by Mr. RAPOU. If, however, this apparatus cannot be procured, he causes his patient to be seated on a chair, situated over a small furnace covered over with a metallic sheet. A large blanket is next thrown around the patient, extending from the neck, where it is made tight, to the floor. Every five minutes a tea spoonful of powdered camphor is thrown upon the metallic sheet. The remedy is immediately vaporized, and all the parts of the body with which it comes in contact, are seen covered with perspiration. This operation is to be continued three quarters of an hour or a full hour, according to the strength of the patient. He is next placed in bed still wrapped up in the blanket, by which means perspiration is kept up for one or two hours longer, and the absorption of camphor promoted. When the patient, from excess of pain, or from debility, is unable to get out of bed, the fumes of camphor may still be applied, by throwing a quantity of the remedy into a hot warming pan, and passing it under the bed covers, alternately to the right and left of the patient.

29. *Examination of the question, whether the Medical use of Phosphorus internally, is useful, injurious, or equivocal?*—In a late number of the Annali Universali di Medicina, Dr. PIETRO MOSCATI has published some interesting and useful observations upon this subject; the summary of which we copy from the July number of the Edinburgh Medical and Surgical Journal. "Several attempts have been made to introduce this substance into medicine, particularly in Germany and Italy; but great doubts have justly been entertained by some of its safety, and by others of its efficacy. The observations of MOSCATI will account for the discrepant results which have been obtained by different individuals. He sets out with remarking, that as Phosphorus possesses the power of burning at a low temperature, in air, and in some other gases containing oxygen, there can be little doubt that it must also sometimes catch fire in the stomach: that as the æriform fluids in the stomach, sometimes do not contain any gas capable of supporting its combustion, it may escape acidification, and that these two circumstances, will account for its acting sometimes merely as an active stimulant, sometimes as a corrosive poison. In the way in which it has usually been administered, it exists generally in its simple state; for he has found that when reduced to fine powder by agitation in boiling water, and then made into an electuary, or when given in solution in alcohol, and æther, it continues in the state of phosphorus. Some physicians have observed it to have no effect at all, either as a poison or as a remedy. The reason is, that when dissolved in alcohol or æther, it separates, in a short time, almost

entirely into the state of fine powder; so that there can never be any certainty of the dose, if the solution is not recently made. For these reasons, he suggests that it ought to be discarded from medical practice altogether."

We cannot too strongly recommend this suggestion to the attention of our readers. We have long regarded it as the height of folly, to prescribe or even to sanction the administration of a remedy of so dangerous a nature, particularly, as it must of necessity be ventured upon by inexperienced or ignorant hands, and thus become, on many occasions, a source of infinite mischief to the unfortunate sufferer. In our humble opinion, medicine gains nothing by such dangerous weapons; for even allowing, that, in a few cases, they are productive of *some* benefit, this effect is counterbalanced by so much evil, that the sooner they are erased from the list of remedial agents, the better.

30. *Nitrous Acid and Opium in Dysentery, Cholera, and Diarrhœa.*—In the Edinburgh Medical and Surgical Journal for July last, Thomas Hope, Esq. Surgeon at Chatham, has published some "observations on the powerful effects" of the above mixture in bowel complaints. After some prefaratory remarks, Mr. H. informs us that he was made acquainted by accident, more than twenty-six years ago, with the efficacy of this remedy in dysentery. Since that period he has continued to use it with unvaried success, in all cases, in his private and public practice. "In 1821, many cases of cholera and diarrhœa occurred on board the Ganymede, of which I was Surgeon, all of which were treated successfully with the acid mixture. In 1824, in the month of September, seventy-one cases of disorder of the bowels occurred, many of which were remarkably severe. Not one of the patients died: not one of them had occasion to take more than five doses; the greater number only two; and one only had occasion for medical attention beyond the second day, as may be seen by the books of H. M. S. Dolphin, of which I was then Surgeon. On board the same ship, in July 1825, no less than 264 cases of colic, dysentery, cholera, and diarrhœa occurred, owing in a great degree, to the unusual and intense heat of the weather, which was severely felt throughout the kingdom. Of these, not one died: and eighty-five were so soon relieved, that they were scarcely absent from duty, the acid having so speedily produced its usual good effect."

Mr. H. confesses that most of these cases were very slight; but, he adds, "I am fully persuaded, that out of such a number of cases, two or three at least of them, under the ordinary treatment, would have proved either lingering or fatal. The form of the medicine, as I have used it in all the cases here referred to, is as under:

R. Acid. Nitrosi	ʒi.
Mist. Camphor	ʒviij. misce et adde.
Tinct. Opii	gtt. xl.

S. One fourth part to be taken every three or four hours.

"A small addition of sirop of red poppies improves not only the appearance of the mixture, but, in some instances, it has appeared to increase its effects.

"In chronic dysentery, the dose of two ounces three times a day, is quite sufficient; the remedy is grateful to the taste, abates thirst, soon removes the intensity of pain, and procures, in general, a speedy and permanent relief. No previous preparation is required for taking it, nor any other care whilst taking it, except the keeping of the hands and feet warm, preserving the body as much as possible from exposure to extreme cold, or currents of air, and making use of warm barley water, or thin gruel, and a diet of sago or tapioca."

Mr. HOPE adds that he tried *nitric* instead of *nitrous* acid, but found it not in any way beneficial to his patients.

One of the editors of this journal has availed himself of Mr. HOPE's recommendation concerning nitrous acid and opium. He has used Mr. H.'s formula in a bad case of dysentery, which had resisted a great variety of treatment. The patient assured him that his calls to the stool were repeated frequently every five minutes—in spite of opium and sugar of lead —of injections of laudanum and starch, &c. The case yielded in twenty-four hours to Mr. HOPE's formula. It has since been employed in two cases of cholera infantum with most speedy and salutary effects. In a case of cholera in an adult, it operated like a charm, and in five or six cases of disordered bowels, it has fully come up to the high character claimed for it by Mr. HOPE.

31. *Tartar Emetic in Pneumonia Biliosa.*—Dr. SAMUEL A. CARTWRIGHT, of Natchez, has published, in the July number of the Medical Recorder of this city, some observations on pneumonia biliosa. His principal object seems to us to have been, to show the advantage that may be derived from a *very bold exhibition* of tartar emetic, in certain cases of this disease, in which the skin remains cold, and an unequal re-action takes place in the system. After remarking that under such circumstances, although there exists an inflammation of the lungs, the lancet, purgatives, &c. are inadmissible, he adds, "The tartar emetic, then, in cases like the present, in which too much blood is determined to the head and lungs, and too little to the surface, cases in which there is an inflammation to be subdued, but not enough of fluid left in the system by the previous evacuations, to enable the lancet, purgatives, &c. to subdue it, yet too great local determinations to admit of opiates, tonics, or stimulants, is the best remedy with which I am acquainted, to subdue inflammation, with the least expense of fluid, and with the least loss of strength." After perusing this extract, our readers will perhaps exclaim, that whatever may be thought of Dr. C.'s theory, there is certainly no novelty in his practice, since, with the Rasorian school, tartar emetic constitutes the sheet-anchor of success in the treatment of pulmonary inflammation. This we are ready to grant; but we must state that RASORI and Dr. C. differ materially as respects the principle upon which

they prescribe the same remedy in the same complaint. Agreeably to the present Italian school, tartar emetic is a direct sedative, a true counter stimulant, by which excitement is diminished throughout the system without the necessary supervention of evacuations; whereas, by the Mississippian writer, it is maintained that under the circumstances we have alluded to above, the same remedy acts as a stimulant of the most powerful kind, rousing excitement in the system, and diffusing it all over. It is but justice to remark, however, that Dr. C. states that it may appear *paradoxical* that tartar emetic, a remedy so powerful in subduing excitement, should be one of the most powerful medicines, in certain states of the system, in producing it. Again, in direct opposition to the Rasorian school, he remarks, "It seems to me that tartar emetic produces excitement by restoring energy to the nervous system, thereby enabling it to rise from its oppression and torpor." After this, it may well be exclaimed by the sceptic, who will decide when doctors disagree.

In another part of the essay, Dr. C. remarks, that most patients will not bear with convenience and advantage, more than five grains at a dose every two hours, and few will bear less than three grains, without its producing vomiting and other troublesome symptoms. Some, however, where the system has not been much depleted, will bear ten grains at a dose. The remedy appears to puke *less*, and develop the excitement *more*, when it is given in the form of pills, or dissolved in a very small quantity of water. "If the patient, after having taken a dose of this medicine, feels like vomiting, another dose now given will generally prevent that effect from being produced." "The states of the system to which it seems best suited, are, when the lungs are congested or inflamed, the tongue black and dry, great determination to the head, and a torpid, insensible state of the surface, particularly of the extremities, &c."

32. *Bark of the Ampelopsis in Catarrhal Consumption.—Extract of a letter addressed to one of the Editors by Dr. Dudley Atkins, of Kingston, Pa.* "Since I came to this part of the country, I have become acquainted with the medicinal properties of a plant, which I find an invaluable remedy. I refer to the Ampelopsis, (the Vitis and Hedera of some authors,) the common creeper which covers the walls of many old buildings in Philadelphia and its environs, growing also on trees, &c. When I came to Kingston, I found this plant, under the name of consumption vine, enjoying a high and universal reputation as a remedy for consumption. I have heard of more than a dozen well attested cases of its curing people who were on the borders of the grave, and who had been given up by the best practitioners in the country, as incurable. But these were not, so well as I can ascertain, cases of genuine consumption, that is, of ulceration of the lungs. I have tried the remedy in a dozen cases, of various forms of pulmonary disease. I find it of little benefit in cases where the lungs are ulcerated, as ascertained by the stethoscope, or by other modes of information. But in cases of chronic catarrh, of chronic purulent discharges from the bron-

chial membrane, even when attended by hectic, &c. I have found it invaluable. In these forms of disease, it is almost specific.

"It appears to operate upon the pharynx, larynx, and whole lining mucous membrane of the lungs, more immediately and directly than any medicine of the class of expectorants, I know of, or have used.

"The mode of preparation is, to take the trunks and branches of the vine, to scrape or peel off the rough external bark or cuticle, and then to separate from the wood, the thick internal bark or cutis, a small handful of which is to be infused in a pint of hot water, and from a pint to a quart to be drank in the day. This infusion forms a mild mucilage, which, on being tasted and drank, will be found to produce a sensation of roughness, and a tickling over the whole fauces, that irresistibly produces screatus, and secretion from the mucous and other glands.

"As the remedy is so simple, so cheap, and yet so effectual, I wish it may become known generally."

33. *Obstinate Vomiting cured with Extract of Marigold.*—Dr. CARTER, physician to the Kent and Canterbury Hospital, in his reports from that Institution, gives an account of an obstinate vomiting, treated by the extract of calendula or marigold. The woman was twenty-four years of age, and complained of vomiting her food soon after it was taken. It was attended with burning pain at the pit of the stomach, and between the shoulders. This state had continued for two years. She was much emaciated. After a variety of remedies had been in vain prescribed, he resorted to an old remedy, the extract of marigold, in doses of three grains every three hours, all other medicines being laid aside. This produced almost immediate cessation of the vomiting. Pain was, however, still felt at the pit of the stomach, on which account leeches were occasionally applied, which, together with keeping the bowels open, effected a cure.

The vomiting did not return for three months, during which time she was under observation. Dr. JAMES JOHNSON says that the calendula is a medicine of ancient, though of almost forgotten reputation. It seems to deserve, he thinks, a trial in chronic affections of the stomach. Dr. CARTER administered the calendula in a case of organic disease of the uterus, with the effect of mitigating pain and lessening the discharge. The preparation was an aqueous extract of the flowers. About one pound of the flowers yielded an ounce of extract.—*Repos. ap. Med. Chir. Rev. July*, 1826.

34. *Vomiting of Fat and Blood.*—JOHNSON's journal cites from the *Annali Universali* for January, this extraordinary case. It was that of a man aged seventy-five, who had enjoyed good health, with the exception of an attack of jaundice, until about two years since, when he began to be seized with occasional vomitings, after which the stomach became restored. One evening, after a violent attack of puking, when the paroxysm was apparently over, he was again seized with a vomiting of pure blood, and a kind of thick oil, or melted fat. In the course of twenty-four hours, the enor-

mous quantity of thirty pints of this mixture was ejected, whereby the man was reduced to a state in which life was scarcely perceptible. Before the attack, he was rather plump, but the skin now hung in folds about him, being emptied of the adipose matter. He recovered in twenty days, but with a great diminution of his adeps. The consumption of fat is very rapid in many instances, but this case is enormous. HALLER cites several cases on the subject of loss of fat. One of a man who lost thirty pounds by a fever, another who lost fifty pounds by a salivation, eighty pounds by small pox, also a man who lost six pounds of oil or fat, from his umbilicus. The gentlemen who describe epidemic East Indian cholera, also give us many examples of sudden and profuse losses of substance by absorption, but this case of sudden colliquation of the fat, exceeds every thing of the kind which we have on record. If we allow in fever a moderate use of digestible food, do we not save to the system, a portion of fat which would be otherwise absorbed, and become a source of more mischief than a little weak chicken water or arrow root?—*Med. Chi. Rev. July.*

35. *Rupture of the Spleen.*—Mr. BAILLY has published in the *Revue Medicale*, several cases of rupture of the spleen, which he asserts to be a very common occurrence in the intermittent and remittent fevers of the Campagna di Roma. He also found the liver very often gorged with black blood, and its structure broken down and reduced to a putrid jelly.—*Ibid.*

36. *Chilblains cured with Chloride of Lime.*—Mr. LISFRANC cured an obstinate case of chilblain, with ulcers on the back of the hands, by covering them with plasters of simple cerate; the plasters had holes made in them: over this plaster was laid pieces of lint dipped in the solution of chloride of lime. The dressings were renewed every twenty-four hours.—*Ed. Med. and Surg. Jour. July.*

37. *Local Spontaneous Combustion.*—Dr. JOHNSON says, "We have been always sceptical as to the alleged phenomenon of spontaneous combustion; nor does the following case diminish our scepticism." He then cites from HECKER's Annals for 1825, vol. ii. the case of a young woman, who, while working at her needle, perceived a "sudden and extraordinary heat pervade her whole body, attended by a violent burning heat in her fore finger, which became encircled with a blue flame to the extent of an inch and a half. Affusions of cold water, and a wetted napkin, had no effect in extinguishing the flame. The whole hand was then put in water, but, like the famous Greek fire, nothing could put it out." This patient, whose finger was afterwards quenched in milk, went to the General Hospital of Hamburgh, where she recovered. As the testimony concerning the conflagration rests on her own statement, our readers may judge for themselves of its probability, always remembering that undoubted cases of spontaneous combustion are on record.—*Ibid.*

38. *Dr. Painchaud on Tic Douloureux.*—Dr. PAINCHAUD, in a letter to the editor of the Quebec Medical Journal, details his unsuccessful attempts, by bleeding, cupping, &c. to relieve a patient affected with tic douloureux.

He began finally to use the rubigo ferri, and gave a scruple three times a day, with no good effect; but when he augmented it to one drachm, thrice a day, the patient was completely cured in one week.—*The Quebec Medical Journal, No. 3.*

39. *Duration of Life among the Romans.*—At a sitting of the *Academie Royale des Sciences, Jan.* 30, Mr. DUREAU DE LA MALLE submitted some tables of the census of the Romans, to which he subjoined a very interesting table of the probable duration of life, among those lords of the earth.

Table of the probable duration of Life, calculated by DOMITIUS ULPIANUS, *prime minister to* ALEXANDER SEVERUS.

Age.				Probable duration of future life.
From 0	to	20	years	30
20		25		28
25		30		25
30		35		22
35		40		20
40		45		18
45		50		13
50		55		9
55		60		7
60		65		5

Mr. DUREAU DE LA MALLE, says that this table was calculated on the basis of the census, (*tabulæ censuales*) and the registers of births, puberty, virility, deaths, by ages, sexes and nature of diseases, which were kept in the most rigorous manner from SERVIUS TULLIUS, down to JUSTINIAN which comprises ten consecutive centuries. From these 1000 years of observation, which is a term longer than necessary to establish the exactness of the calculation, ULPIAN fixes the mean duration of life among the Romans to be 30 years. And it is worthy of remark, that the mortality bills of Florence, show the same result at the present day, in that capital of Tuscany.—*Archives Générales, Mars* 1816.

40. *Difference of Mortality from* 1775 *to* 1825.—At a sitting of the Royal Academy, M. FOURNIER read a memoir by Mr. BENOISTON DE CHATEAUNEUF, on the changes which have taken place in the laws of mortality from 1775 to 1825.

It is known, that of one hundred children, there formerly died within the two first years - - - - - - 50
This number is now reduced to - - - - 38.3

This difference ought to be principally attributed to the influence of vaccination.

Of one hundred children, there formerly died before the age of ten years, - - - - - - - - 55
At present, the number is - - - - - - 47.7

Out of 100 male children, formerly there arrived at 50 years of age, only		21,5
Now		32,5
It is ascertained that the rate of mortality was formerly	1 in	30
At present, it is	1	39
The births were formerly	1	25
At present,	1	31
The marriages were	1	111
At present,	1	135
Formerly the mean product of each marriage was	4	children
At present,	4	do.

It is plain, the fecundity of the people has not changed, that the births, as well as the deaths, have diminished, and that the term of human life is prolonged.

One cause of the diminished number of births, may be found in the smaller number of marriages; besides which, the number of foundlings has more than tripled since 1780. Nevertheless, the population must increase, because the duration of life is greater, which has more influence in augmenting the population, than a few births more or less, from which death removes in two years 0,48.

There is another Table, showing a comparison of the population, &c. of all France in 1780, and in 1825.

1780,	whole Population	24,800,000	1825,	30,400,000
	Deaths	818,490		761,230
	Births	963,200		957,970
	Marriages	213,770		224,570
	Illegitimates	$20,480\frac{11}{47}$		$65,760\frac{1}{4}$

Mortality at different ages for the whole Monarchy.

In 1780, from birth to 10 years,	out of 100,	55.5 died.	In 1825,	43.7
50		78.5		67.5
60		85		76

It is clear, therefore, that the mean duration of life in France, is prodigiously increased.—*Ibid.*

41. *New method of Percussion of the Thorax.*—Mr. Piorry read a memoir to the Academy, on this new method. It consists in striking on a small circular plate, one line in thickness, made of the pine used by the musical instrument makers, and supported by a bent handle. By this means, a stronger sound is obtained, the differences of which may be perceived even through the clothes. We may also strike harder, and with a more sonorous substance than the fingers, &c.—*Ibid.*

42. *Acid Nitrate of Mercury.*—Auguste Godart, D. M., has published his thesis, consisting of a history of this medicine, and the cases to which it is applicable as a remedy. He relates a number of cases of eruptive diseases, such as lepra vulgaris, psoriasis inveterata, old syphilitic ulcers, and herpetic affections, in which it produced happy cures. It is difficult to

give any reason why this caustic should produce such happy results, when other caustics have no such beneficial effects. Mr. Godart informs us that the pain that follows its application, though very acute, is short lived. His directions for its employment, are, to dissolve one grain of acid nitrate of mercury, in one ounce of nitric acid, and according to the thickness of the part to be cauterized, spread with a pencil, thin layers of the caustic, on the diseased parts, or cover them with lint moistened with the above mentioned liquid. This is the process of Mr. Jules Cloquet. One, two, three, or even more cauterizations are required, according as the disease has been of longer standing or greater severity. We think the world will be much indebted to the physician who can point out any certain method of treating some of these obstinate cutaneous affections, which in these United States at least, most generally go out of the hands of physicians, into the management of quacks and old women.—*Ibid.*

43. *Effects of Ardent Spirits.*—Mr. Segalas, in a memoir read at the Royal Acad. of Sciences, asserts 1. That concentrated alcohol exerts a chemical action on the blood while circulating.

2. Diluted alcohol, injected into the veins or bronchia, produces drunkenness immediately. The same effect takes place more slowly if it be introduced into other parts.

3. The effects of alcohol introduced elsewhere than into the veins, are in direct ratio to the intensity and quickness of the absorbing power of the part, and altogether independent of the nerves distributed in it, particularly of those of the stomach.

4. The effects are accelerated, augmented, or retarded and diminished, by those circumstances which favour or oppose the entrance of alcohol into the circulation.

5. Drunkenness is dissipated as soon as the alcohol leaves the blood, and more or less speedily, in proportion as circumstances are more or less favourable for exhalation.

6. The intensity of the effects of alcohol, are in a ratio, not of the quantity of alcohol put in contact with the organs, but of that which is actually in the blood.

7. Finally, profound drunkenness, and death by drunkenness, coincide with a manifest alteration of the blood, and with less remarkable disorders of the solids, says Mr. Segalas. Considering drunkenness as the result of a disease of the blood, an explanation is afforded, of the influence of oil and ammonia in arresting its effects: according to Mr. S., oil may prevent the absorption of alcohol and ammonia, and acetate of ammonia ought to favour its elimination. Perhaps they even exert a direct influence on the blood, the reverse of that exercised by alcohol.—*Archives, Avril.*

44. *Colombo Root.*—M. Guibourt gives some observations on colombo root. The true root, which is that of the *cocculus palmatus*, (Decandolle) is scarcely seen any more in commerce: it has given place to a spurious sort which comes from the Barbary States, and which looks like, but is not,

however, the gentian. The true colombo is of a greenish colour, of a very bitter taste; presents sometimes a radiated structure, and becomes blackish with iodine, on account of the starch which it contains. False colombo is of a yellow-brown colour, and a taste rather acrid than bitter, an odour like gentian. Iodine discovers no starch in it, and does not change its colour; it becomes blackish-green with sulphate of iron. Its aqueous infusion reddens tournesol; ammonia is disengaged from it by caustic potassa, all, circumstances which do not obtain with genuine colombo.—*Archives Gén. Avril.*

45. *Poison of Mushrooms.*—Dr. LETELLIER has published some Researches on the alimentary, medical, and poisonous properties of the mushrooms which grow in the neighbourhood of Paris. Dr. L. says, that from numerous experiments made by himself on the deleterious substance which exists in mushrooms, it results, that this poison is not weakened by dessiccation nor by ebullition; it is not decomposed or precipitated by acids, by weak alkalies, acetate of lead, or infusion of nut galls. It is soluble in water, and in all liquids which contain water; insoluble in æther, notwithstanding what has been said by authors concerning this point; it does not seem to be susceptible of crystallization, and consequently, cannot be separated from colouring matters, and salts with a base of potassa or soda. It neither manifests itself by odour or savour; resists a temperature much higher than that of boiling water, and forms with acids, crystallizable salts.

This substance exists only in the *agaricus bulbosus*, *muscarius*, and probably *vernus*, and may receive the name of *amanitine*, derived from that of the section of agarics in which it is found. M. LETELLIER states, that the symptoms produced by this deleterious principle, are nearly related to those from opium, and what establishes a closer analogy, is, the drunkenness, with coma or furious delirium, which the Russians, according to PALLAS, produce with the agaricus muscarius.—*Archives Gen. Mai* 1826.

46. *Antisyphilitic Decoction of Zittmann.*—This preparation was employed towards the middle of the last century, and remained a secret preparation till 1795. Dr. CHELIUS (vid Heidelberger Klin. Annal.) having witnessed its efficacy in the most inveterate cases of syphilis, has used it for ten years past, not only in such affections, but also in scrofulous and similar diseases.

According to his experience, it cures—1. all recent venereal affections—2. all those which have resisted the various preparations of mercury—3. the diseases occasioned by mercury. The cure is effected in from ten to twenty days. The treatment, far from having any unfavourable influence on the general health of the patient, gives it freshness and vigour. Even those who are eminently rachitic, bear it without inconvenience. The decoction of Zittmann, from its moderate price, is in reach of any patient. M. CHELIUS gives some cases showing its effects.

Zittmann's decoction is prepared in the following manner:

1. Strong decoction.

R. Rad. Sarsapar. - - - - - ℥xij
Coq. c. aq. font. lb. xxiv per ¼ hor. adde
Celum Sacchar. - - - - - ℥iss
Merc. dulc. - - - - - - ℥ss
Cinnabar. Antimon. - - - - ʒj
In nod. ligat. Sub fin: coct. admisce,
Fol. Sennæ. - - - - - - ℥iij
Rad. liquis. - - - - - ℥iss
Sem. Anisi Vulg. } - - - - - aà ℥ss
— Fœniculi. }
Col. lib. xvj. D. ad lagen. viij.

2. Weak decoction.
R. Resid. decoct. fort.
Rad. Sarsapar. - - - - - ℥vj
Coq. cum. aq. font. lib. xiv. Sub. fin. coct. adde
Pulv. Cort. Citr. }
— Cinnamon. } - - - - aàʒiij
— Cardamom. }
Rad. Liquir. - - - - - ʒvj
Colat. xvj. D. ad lagen viij.

The patient may commence by taking from nine to twelve pills, composed as follows:

R. Calomel. - - - - - - - - gr. xxiv
Rad. Jalap. - - - - - - ʒiss. ft. pilul 80

During the four following days, he will take every morning, a bottle of the strong decoction, a little warm, and after dinner the same quantity of the weak decoction, not warmed.

On the sixth day the pills are repeated, and the four following days the decoctions are repeated as at first. During this process the patient's diet must be confined to two ounces of roasted lamb or veal, with an equal quantity of wheaten bread, and only *three potages* on the days of purging. It is of importance to keep in bed during this treatment, after which the patient should remain quietly in his room a few days, drinking a little sudorific ptisan, and observing a severe regimen.

If after all this, the disease should not lose every vestige of the syphilitic character, recourse must be had to a second treatment of the same kind; but in a majority of cases, ten or eleven days are sufficient to put an end to all the symptoms, or at least to bring them to a condition in which they require no particular therapeutical aid.—*Archives Gen. Mai.*

47. *Acetate of Ammonia a Remedy for Drunkenness.*—At a sitting of the Royal Academy of Sciences, M. Mazuyer sent a memoir on the effects of acetate of ammonia in drunkenness, which, according to him, will dissipate it in less than five minutes. This property belongs, as has been long known, to ammonia.—*Ibid.*

48. *Mortality of Leeches.*—A sad accident has happened lately at Stras-

bourg. A whole army of leeches, equalling in number the people, and tongues, and nations which followed Xerxes to drink the blood of the Greeks, has lately perished while passing through the capital of Alsace to revel in the spoils of the gastrites, gastro-enterites, laryngo-tracheite-myxa-pyo-meningènes, and other such branches of learning, which flourish so much in the good city of Paris. *One million* of these animals on their way from Hungary to Paris, were thrown into the river, having putrified in consequence of the excessively hot weather, whereby a total loss was sustained, equal to 320 or £400.—*Philad. Gazette.*

49. *Black Drop.*—Dr. JOHNSON says, that "Public attention was drawn to the Black or Lancaster Drop, about ten years ago, by Dr. ARMSTRONG, who published the formula, in the first edition of his valuable work on typhus fever. It is certain, however, that full twenty-one years ago, two formulæ were given to the public by Dr. JAMES CASSELS, of Lancaster, one corresponding with that of Dr. ARMSTRONG, and the other as follows: "take of purified opium, five ounces—pimento and cinnamon, of each two drachms—saffron and Seville-orange-peel, of each one drachm—rectified spirit of wine a pint. Digest with a gentle heat for a week, and strain the liquor through flannel with a screw press; then add two or three ounces of sugar-candy."

A friend of ours made the Black Drop according to the other prescription, (with the Verjuice,) but it did not correspond in colour, taste, or property, with that which is sold as a secret preparation. We would therefore recommend a trial of the last mentioned formula, as a succedaneum for a very expensive, but very valuable medicine."—*Med. Chir. Rev. July* 1826.

50. *Doses of Calomel in days of yore.*—In the seventh volume of HALLER'S Dissertations, the curious reader will find an important paper on the use of calomel in various diseases, by MICHÆLIS ALBERTI, in which he gives a learned history of this potent medicine, from the Arabian Physicians down to PARACELSUS, and thence to his own time, 1745. In this dissertation, it will be seen that HELWICHIUS gave calomel in doses of five scruples to two patients. To a third he gave seventy-two grains, which affected the mouth for a fortnight. NEUTERUS gave calomel, at first in the dose of fifteen grains, second dose a scruple, third dose half a drachm, fourth dose a drachm; at which dose he continued till the ptyalism was raised. We do not cite this notice from JOHNSON, by way of encouragement, for the trivial name, of *Calomel and Jalap Doctors* is sufficiently in use already. Dr. JOHNSON remarks on this article, that there is nothing new under the sun. How can there be any thing new under the *head* of calomel, when we have travelled all the way from HELWICHIUS' 100 grains, down to AYRE'S 8ths for doses? —*Ibid.*

51. *Buying a Good Practice.*—We believe that no good offers have been made in this country as yet, for the purchase of a *practice.* It is true we hear of patrons and protegees sometimes, but these are pure voluntarities.

The following advertisement sounds rather singular therefore in American ears. It is from JOHNSON's Journal for July.

"A general practitioner of considerable experience, in order to obtain a more extensive connexion than his present situation affords, wishes to purchase a share, where there might be a probability of his succeeding to the whole of an established business. Any gentleman having it in contemplation to retire in a few years, would find this an eligible opportunity for realizing the value of his practice. Apply (if by letter *post-paid*) to Mr.," &c. &c.

We do not desire to meddle with our grandfathers on the other side of the Atlantic, but we do not think it quite fair in a guinea doctor, whose chariot wheels are worn out, and whose purse is worn through with carrying home guineas, to sell out his catarrhs and convulsions, his hepatitises and hypochondriases, to the highest bidder. If some of our established physicians, whose just reputation enables them to monopolize all the valuable practice now, should choose to retire and *realize*, what would become of forty or fifty young aspirants for employment, whose progress, like the soldier's foot in the lock-step, must depend on the displacement of his antecedent? Heaven forefend such realizing!

52. *Sore Nipples.*—Dr. SIBERGUNDI, of Dorsten, recommends the following preparation as a cure for sore nipples, and if it is of any efficacy, the ladies who suckle their children may thank him for the information:—*Extracti opii aquosi* qr. j. *Solve in aqua calcariæ ustæ, nuperrime preparatæ; olei amygdalarum dulcium, recenter et frigide express.* āā ʒiij. The nipples are to be dressed with lint wetted with this mixture.—*Bulletin, Juin* 1826.

53. *Anderson's Quarterly.*—It seems rather singular that French news and English news should travel across the Atlantic to be dressed up for the London market, and yet such is the fact. We regard it as a proof that our labours in the Quarterly summary department of this journal, are acceptable to the public, for we find a large amount of them transferred, some of them without acknowledgment, to ANDERSON's Journal for July.

54. *Antiquity of the Cow-pox, and origin of the Small-pox from it.* (*Hufeland's Journal, Feb.* 1826.)—The Pope's physician, Dr. PRELA, has with great probability proved, particularly by passages from PLINY and CELSUS, that vaccination was known in ancient times under the name of *Boa*, by which its origin from the Cow is designated; and on this he has founded the ingenious hypothesis, that the small-pox gradually developed itself by the action of the cow-pox on the constitution, so that the present removal and prevention of the complaint by vaccination, is only to be considered as a return to the old state. These opinions are detailed at length in a separate publication from PRELA, under the title of *Il Boa di Plino, congettura sulla storia della Vaccinazione. Milano,* 1825.—*Ed. Med. and Surg. Jour. July* 1826.

V. SURGERY.

55. *"Lithotritie," or the breaking up of the Stone in the Bladder. Civiale's operation for urinary calculus.*—Before the establishment of our journal, the profession in this country were informed of the proposal of M. CIVIALE to break up, by means of suitable instruments, the urinary calculus in the bladder, so that, the fragments being discharged, the patient might escape all the horrors of his situation, and all the dangers to which the common operation of lithotomy, even in the best hands, would inevitably expose him. The operation of M. CIVIALE has been very generally opposed, at home and abroad; with many friends, it has met with more enemies; it, nevertheless, appears to be gaining ground on its enemies, and M. CIVIALE has been forced to encounter, not only the objections to his operation, but the opposition of friends to the improvement, who deny him all credit for originality, in the conception of the idea, or of the means by which it has been executed. "Such," says CIVIALE, "is the common course of events; as soon as a discovery is announced, it is at once rejected, even without examination; when experience has tested its utility, the rights of the author are contested."

We propose to give a short history of the operation, as presented by M. CIVIALE himself, in the March (1826) number of the Archives Générales, and of its present reputation in Paris, as reported in the numbers of the same journal for April and May. This will be useful as a matter of record, if not of great practical importance.

In 1817, M. CIVIALE conceived the idea of introducing *straight instruments* into the bladder, to seize and perforate the stone, and afterwards to destroy it by chemical agents.

In 1818, he addressed a memoir to the Minister of the Interior, accompanied with drawings of his instruments. The whole was referred to the Faculty of Medicine, which appointed MM. CHAUSSIER and PERCY, a committee to report thereon. Their report was not, however, presented until March 22nd, 1824. During the interim, many experiments were made on the dead human subject, and on living animals, by M. CIVIALE, who modified his instruments, and in 1821 brought them nearly to their present state of perfection.*

In 1823, his first attempts on the living subject were made; he operated on two patients with small calculi, with complete success. Early in 1824, he again operated successfully on three patients, where the difficulties were much greater. These operations were performed in the presence of many surgeons, and also of the above-named committee, who soon after made their report to the Faculty of Medicine, in which they state "that notwithstanding its insufficiency in certain cases, and its inapplicability in others, it cannot fail to create an epoch in the art of healing, and be regarded as one of its most ingenious and salutary resources."

* They are described at p. 396, vol. x. of the Archives Gen. March number.

Lithotritie was thus demonstrated to be practicable. "It remained," says M. CIVIALE, "to fix the *limits* for its employment;" which experience could alone determine. Hence, M. CIVIALE adduces facts and cases to show, 1st, *what are the most favourable cases.* "A small stone, a healthy or almost healthy condition of the prostate, of the bladder, and of the vital organs, with a natural condition of their functions, are the most favourable circumstances."* M. CIVIALE has detailed under this head, nineteen cases in which he was completely successful: many of them were performed in the presence of distinguished surgeons, &c. The conclusion he draws is, "that, with the exception of very young children, and a few other cases, all those who submit to the operation as soon as the disease is manifest, are exposed to no danger, usually suffer but little pain, and are preserved from those terrible sufferings and diseases, which the continued presence of a stone in the bladder produces." 2nd. *What are the circumstances which diminish the chances of success?* "A large stone; alterations more or less great in the bladder; considerable *engorgement* of the prostate, a diseased state of the kidneys, or of other organs, are unfavourable complications." Such cases, often demand a preparatory treatment of eight or ten days. M. CIVIALE records eleven examples under this head, in which he eventually succeeded in completely relieving the individuals, from the symptoms and the presence of calculus in the bladder. Three of them afterwards died of other complaints. "The diseases of which they died, after being operated on, and cured for some time, were independent of the stone and of the operation. The autopsy of these subjects, has proved how little foundation there is for the fears of some, relative to fragments of the stone remaining in the bladder." 3d. *What are the circumstances which absolutely forbid this operation, or render success improbable?*

Nine cases are detailed in answer to this question, in three of which the attempt was unsuccessful, and lithotomy was performed. One of them died from this last operation. In two others, a mere examination was made by M. CIVIALE, and lithotomy was afterwards performed with a fatal result.

In a sixth case, several stones were extracted; the individual became impatient, was cut in the usual manner, and recovered. In a seventh, lithotritie was, with some difficulty, successful. In the eighth, no attempt was made by M. CIVIALE, who found the patient with an abscess and stone in the perineum, of which he died; and in the ninth case, CIVIALE himself resorted at once to lithotomy, the case being a very unfavourable one: the patient died.

In all of these cases, there was much disease, either of the urethra, bladder, prostate, or of the internal viscera. In some, the stones were numerous, and in one or two, the calculus was of enormous size. M. CIVIALE states, that he has met with many other individuals who were beyond relief by any measure whatever. He adds, "I have thus endeavoured to shun the

* P. 399. t. x. Archives Gen. where the mode of operating, as well as the preparatory measures, are detailed.

rock on which others have been shipwrecked, who have made improvements. I have not generalized too much." "A review of the *facts* will show how futile are the objections to my operation. It is said, that the operations are multiplied and fatiguing; the contrary, has just been demonstrated: The time occupied in the treatment is proportioned to the duration of the complaint. It is also asserted, that there is never any certainty that the cure is perfect; but the facts refute this objection. Experience has also shown, that no objection can be founded on the *solid* nature of the instruments. The inconveniences of dilating the urethra have been urged, but the size of my instruments proves, that there is no dilatation of a healthy urethra. The bad consequences of my operation have been urged by others, but no such accidents occur to any who have sufficient experience in performing lithotritie. It is also urged, that the unsuccessful attempts to break the stone, have aggravated the danger of lithotomy, when subsequently formed: on this point, I will cite but one fact; of four individuals, on whom I made unsuccessful trials, and who were subsequently cut, three were cured."

As to the relative value of the two operations, facts must determine. M. Civiale states, that of 60 individuals cut by the celebrated Frere Jacques in the hospitals of the Hotel Dieu and La Charité, 13 were cured, 25 died, and the remainder lived, with more or less permanent injury. Morand states, that of 812 patients, cut at the above hospitals, from 1720—27, 255 perished; of the 557 who survived, the cure was incomplete in a large number.

In a late work of a distinguished Professor, it is asserted that one in four or five die, and M. Richerand, in his recent history of surgery, affirms, that success cannot be expected in more than *half* of the cases of lithotomy.

We have not materials at hand, to enlarge this account of M. Civiale, but believe that in England and this country, lithotomy is more successful; nevertheless, *if* lithotritie will answer in the cases specified by M. Civiale, its introduction should be hailed as "an epoch in the history" of this operation. One of the favourable cases above alluded to, occurred in the person of a physician; Dr. Brousseard, who read an account of it to the Academy of Medicine, the 27th of Oct. 1825, which was published in the Archives for April last, at which time he continued perfectly well; the operation having been performed in the summer of 1825, at six sittings.

In a Report to the Academy of Surgery on this case, by MM. Roux, Jules Cloquet, and Hervey de Chegoin, we find decided testimony in favour of lithotritie to a certain extent, but the reporters confine themselves to what they have actually witnessed.

"It has been indubitably proved to the Academy, that it is possible to break up a calculus of small size in the bladder, and to extract the fragments by the urethra, without any incision, and by means of straight instruments; that this operation, although it must be repeated a certain number of times, not without pain, is far from presenting the great dangers and

disadvantages of lithotomy, and that thanks are due to the patient, and encouragement to the operator." Testimony is borne to the mode and dexterity of M. CIVIALE's operations, and they add, "that without investigating the question in a general point of view, we may conclude, from what we have seen, that stones of a small size, and friable, are *easily* broken in this organ, and withdrawn by the urethra. Other facts already published, *will give more extent to these conclusions*, but we repeat, that we confine ourselves to the facts which we have witnessed."

56. "*The High Operation*" is attracting attention in France and England, and is performed when the bladder is emptied of its urinary contents, and of course, contracted on the calculus, so as to avoid any danger of urinary infiltration. It has been proposed to empty the bladder in these cases, by introducing a canula into this viscus through *a small opening in the perineum and urethra.*

This project has been condemned by many, and at the sitting of the French Academy, March 30, Mr. EMERY stated that besides M. CIVIALE, this incision had been condemned by HOME, SCARPA, and other surgeons, as useless. It does not appear that much success has as yet attended the revival of the High Operation.—Vide page 462 of our first Vol. for a successful case.

57. *Sutures in Wounds of the Bladder.*—MM. LISFRANC, MAINGAUT and AMUSSAT, reported to the section of Surgery in April last, on a memoir of M. PINEL GRANDCHAMP, relating to Wounds of the Bladder. After noticing his experiments on various animals, and examining the state of the bladder after these animals had been killed, they conclude, "that the suture should always be eventually removed by the external wound, as otherwise it would become the nucleus for a calculus.—Secondly, if the wound of the bladder should not be cicatrized, when the suture is withdrawn, this viscus contracts adhesions with the parietes of the abdomen, which would prevent effusion; that in the human subject the lips of the wound in the abdomen could be kept separated, so that the ligature could be removed sooner; and finally, that these experiments of M. PINEL would authorize the belief, that this practice would be extended to the human subject, and that the "high operation" for the stone, might thus be superior to that by the perineum.—M. JABERT has made similar experiments on the bladder.—*Archives Gen, Mai* 1826.

58. *Paracentesis Thoracis.*—A case of Empyema, in which this operation was successfully performed, is recorded by THOMAS JOWETT, Esq. of Nottingham, England.

The details as given in the Med. Chirurg. Rev. for July, are highly interesting and valuable; especially as exhibiting the great advantages derived from the stethoscope, and from percussion, in the diagnosis and treatment of pulmonary affections. The operation was performed on Wednesday, March 31, 1824, in the tenth intercostal space, of the right side, and about three inches distant from the spine, where the bulging of the integuments

was greatest. A stream of pus "spouted out to the distance of several feet," and was interrupted by a fit of coughing, after three pints of the fluid were discharged; a quantity of air was sucked into the cavity of the thorax. The pus was good, and did not undergo any change by standing two days exposed to the air. The wound did not again discharge, and by the fifth of April was nearly cicatrized. No bad symptoms resulted—the patient continuing to improve until the 14th of April, when she had cough, purulent expectoration, some fever, night sweats, &c. On the 24th, a tumour appeared where the operation was performed, which burst on the 26th, discharging ℥ij of a greenish-yellow pus—some oozing continued for several days. May 10th. The right side of the thorax is evidently much contracted in all its dimensions, with a lateral curvature of the spine. This diminution was, however, temporary, for the spinal column became nearly straight, and the right side re-enlarged to very nearly its proper dimensions, by the 5th of July.

On the 4th of February, 1825, the patient continued well, with the exception of a slight cough, and generally slept on the right side. We regret the want of room for more details, and for the remarks of Mr. JOWETT.

59. *Stricture of the Œsophagus.*—A man died of exhaustion from a stricture of the œsophagus, when beyond seventy-six years of age, and who had, from childhood, experienced a difficulty in swallowing solid food. A post mortem examination exhibited a considerable dilatation, or pouch, at the lower portion of the œsophagus, below which was a stricture so narrow, as scarcely to admit a probe. "There was *no change of structure* in the parietes of the œsophagus constituting the stricture, which appeared to be a simple contraction, not dependant on any organic alteration of the parts." The case occurred at Paris.—*Med. and Chirurg. Rev. for July.*

60. *Wound of the Brain.*—Dr. Jos. MARRIN relates in the Quebec Medical Journal for July, the following case of injured brain, &c.

—— Gingras, aged twenty-one years, when discharging his gun, was wounded in the forehead, by the breech-pin, which, in consequence of the bursting of the gun, was driven through the inferior portion of the frontal bone, immediately above the nasal process; the injury extending on the left side, so as to cause a fracture of the internal angular process as far as the superciliary notch, as well as the anterior portion of the orbitar plate. The young man was knocked down by the blow, but soon recovered so as to walk some distance, until he *fainted* from the loss of blood.

Dr. M. several hours after the accident, found the integuments much lacerated, and the breech-pin so deeply plunged into the substance of the brain, as not to be seen until the integuments were separated, when it was discovered, immoveably wedged in the bone, while part of the substance of the brain appeared on each side of the wound. The patient was sensible. From want of instruments, (the accident occurring out of the city,) some delay ensued before the pin could be extracted, which was eventually accomplished by means of a dentist's forceps employed with considerable force.

No hæmorrhage followed; the patient having been previously bled, was directed an aperient medicine, a most abstemious diet, and cold applications to the head, while the edges of the wound were brought together with an adhesive plaster.

On the sixth day, his pulse beginning to rise, he was bled a second time. On the fifth day, a piece of brass of the size of an English sixpence, dropped from the left nostril, and was recognized as having been attached to the breech-pin.

A sanious fœtid discharge continued to issue from the orifice in the cranium, which, however, ceased on the extraction of some spiculæ of bone, which had been driven to the depth of three inches and a half, by the breech-pin. The wound, which was four and a half inches deep, granulated, and the whole cicatrized readily, the patient remaining free from pain, fever, &c. and in possession of all his mental faculties. "The sense of smell, is totally lost from the separation of the olfactory nerves at their entrance in the cribriform plate; the organ of taste is consequently much impaired." The sight in the right eye, is perfect—in the left, it is destroyed. The patient returned home in twenty-seven days after the accident.

61. *Luxation of the Metatarsus; the history drawn up by M. Dusol, D. M. P.*—Examining the figure and connexion of the bones composing the articulation belonging to the tarsus and metatarsus, we might deem the luxation impossible. Boyer absolutely denies the possibility; Petit and Desault do not notice it; and Dupuytren considers the following case as unique in the records of the profession.

Frances Voichot, aged thirty years, acting as a porter in the town hall, of good constitution, was taken into one of M. Dupuytren's wards in the Hotel Dieu, on the sixth of November, 1822. The woman stated, that in coming down St. Michael's bridge with a load of two hundred pounds, she pitched with all her weight on her right foot, and at the instant she attempted to save herself, she felt a severe pain in the foot, accompanied by a loud crack, which she heard very distinctly, and that she was unable to rise. On examining the injured foot, instead of the hollow observable in the other foot, which was small and well formed, it was perfectly flat, even more so than in what is termed a flat foot. At first, M. Dupuytren thought that there was fracture of the metatarsal bones; but examining it more attentively, and perceiving neither crepitus nor any unusual mobility in the extent of these bones, he became convinced that there was luxation.

One circumstance might have occasioned a momentary doubt; the metatarsal bone supporting the great toe, which is naturally the shortest, appeared longer than the rest; but on a more critical examination, M. Dupuytren soon perceived that this bone, having preserved its connexion with the first cuneiform bone, they were both dislocated together; and it became evident that this metatarsal bone, with its cuneiform bone, and the other four metatarsal bones, were luxated from the corresponding bones of the tarsus.

The short lapse of time, and the absence of all swelling, permitted this morbid condition to be distinctly ascertained.

The following circumstances are likewise noticed: 1. The foot was shorter by three or four lines, occasioned by the riding of the bones. 2. On the instep, there was a transverse projection about half an inch in height, formed by the posterior extremity of the metatarsal bones, and the first cuneiform bone, but more remarkable on the inside than the outside, so that, had there not been a perfect conviction that the dislocation was complete, the opinion might have been entertained, that the articulating surfaces were less separated towards the outside; this projection corresponded to the line indicated for the partial amputation of the foot, excepting so far as the cuneiform bone was concerned. 3. Behind this, there was a depression large enough to receive the breadth of the finger. 4. The hollow of the foot was completely destroyed, owing to the sinking of the tarsal bones. 5. And lastly, the extensor tendons were seen well defined under the skin, and raised up the toes. If to these be added, the pain experienced by the patient, the loss of power in the limb, and the almost entire immobility in the luxated part, we are presented with the whole of the diagnostic symptoms: moreover, the integuments were not injured.

The immediate reduction naturally presented as the prominent indication, and considering the extent to which the ligaments were lacerated, little difficulty was to be apprehended in accomplishing it; but as M. Dupuytren saw no danger to the patient, there not being the slightest tumefaction, he wished to defer the operation till the next day, that he might have the opportunity of submitting so extraordinary a case to the examination of some medical men, particularly those of the Academy; the treatment was confined to resolvent applications and cooling drinks. A very trifling swelling succeeded; and, twenty-four hours after her admission, she was taken into the operating room to have the reduction effected. The patient was placed on a bed; and on the lower part of the leg, with the knee bent and held firm by an assistant, a towel, folded like a cravat, was fixed, the ends passing backwards, to serve as the counter extending band. For the extension, a splint was fastened on the fore part of the foot by means of a long roller, and the operator directed the movements, and with both hands pressing in opposite directions on the luxated bones, he soon restored them to their natural position. At the instant the reduction was effected, there was heard, even at a distance, a sound which the patient recognised as similar to that produced at the time of the accident. From this period the deformity vanished, the pain nearly ceased, and abating the slight tumefaction, the injured foot was not to be distinguished from the other. After the reduction, M. Dupuytren pointed out the unusual mobility of the tarsus, evidently owing to the rupture of the ligaments connecting the several bones.

On the foot and the lower part of the leg, compresses, moistened with a resolvent fluid, and a somewhat tight bandage, were applied. The limb

was placed in a semiflex position on a pillow, and cooling drinks were administered. By this treatment, rigidly observed for one month, the pain and swelling gradually subsided, and the articulation appearing sufficiently strong, the patient was permitted to get up. She soon began to walk, and on the seventeenth of December she left the hospital perfectly well. She only suffered for a short time, from a little stiffness in walking. The compressing bandage was continued to the close of the treatment.

In this history, it is very remarkable that an accident, which might have terminated unfavourably, should have been followed only by a slight tumefaction that soon disappeared, while apprehensions were entertained of the most alarming nervous symptoms, tetanus, &c. so often observed in severe injuries of the foot. May we not presume that this was owing to the articulating surfaces not being exposed.—*Archives Générales de Medecine.*

VI. MIDWIFERY.

62. *Uterine Hæmorrhage.*—This is always dangerous, and not unfrequently fatal, when occurring during pregnancy or parturition; and although the judicious administration of ergot, sugar of lead, &c. with suitable manual assistance, has lessened these dangers, yet we hail with pleasure another, and an ingenious curative measure, useful not only for arresting hæmorrhage from the uterus in certain cases, but also to facilitate the expulsion of the placenta, when too long detained.

Dr. Benoit Mojon, of Genoa, has proposed to inject into the placenta, by means of the umbilical vein, a quantity of cold water, slightly acidulated with vinegar, after having expressed the blood as much as possible. As soon as the injection has penetrated the small venous radicles, the hæmorrhage ceases, and the placenta will be thrown off. Occasionally, it may be necessary to repeat the injection, the first having previously been pressed out.

This practice promises to be most advantageous in cases of abortion, where the hæmorrhage continues, and the placenta remains adherent, and yet the hand cannot be introduced.

In cases similar to these, M. Bonnie has succeeded by throwing acidulated injections into the cavity of the uterus.—*Jour. Univ. for June*, 1826. *Rev. Med. for June*, 1826.

63. *Polypi of the Uterus.*—In the May number of the Archives Générales, M. Berard records a case of uterine polypus, from which the following conclusions are drawn. 1st. A polypus attached to the fundus of the uterus, and extending into the vagina, may contract adhesions to this passage, and thus form a second attachment. 2nd. If the polypus increase, it is the liberated portion which augments, and descends towards the vulva. 3d. The polypus is then suspended by two pedicles, one entering through the cervix to the fundus uteri; the second, shorter and thicker, is inserted into a part

of the vagina. 4th. If the polypus descends quickly, the first root produces an inversion or a descent of the uterus; the second causes the inversion of the vagina. 5th. If the inferior pedicle be inserted at the middle or inferior part of the posterior wall of the vagina, the recto-vesical partition will be inverted; if it be inserted above the middle of the same wall, that portion of the vagina, which is internally covered by the peritoneum, will be drawn down by the polypus. 6th. In this last case, there will be on the peritoneal side, a depression, proportioned to the degree of inversion, into which the intestines may descend. 7th. It may happen, that the inverted portion of the vagina may so resemble the polypus, that the two cannot be distinguished, and the disease be misunderstood. 8th. If a ligature be applied to this inferior pedicle, it may embrace the vagina and the *intestines*, which have entered the depression; if it should be divided by the knife, a large communication would be made between the vagina and the cavity of the peritoneum.

We have no room for the cure, which will reward a careful perusal.

64. *Cæsarian Section.*—Dr. VONDERFUHR, of Dahlen, was called to a female, aged 31 years, in her first child bed, on the 28th of April, 1823, whom he found feeble, emaciated, and rachitic. Pelvis much deformed; the membranes ruptured; the head impacted; the labour pains severe, and at short intervals; child alive. The Cæsarian operation was assented to, and performed with the assistance of Dr. KOPSTADT and M. BUCKLING. An incision was made through the linea-alba, from near the umbilicus, to within an inch of the pubes. The uterus was then opened to the extent of five or six inches, and the fœtus extracted with some difficulty. No hæmorrhage ensued. The placenta was next extracted, and the uterus contracted immediately. The wound in the abdominal parietes was closed by sutures and adhesive plasters. On the 5th day, the patient was remarkably well; free from fever; lochia discharging per vaginam, and milk in the breasts. On the 8th day, the wound was nearly united. She perfectly recovered, without a bad symptom, and brought up her infant safely.—*Johnson's Rev. for July* 1826.

65. *Case of Difficult Parturition.*—Mr. JACKSON, in the London Medical Repository, for March 1826, relates a case of labour, in a female with her second child, which was rendered tedious and difficult, by a soft tumour situated *behind* the rectum, which Mr. J. was unwilling to puncture through the posterior parietes of the rectum. The delivery was eventually effected by the feet. On the 2nd day after delivery, there was a complete obstruction to the fæces, and the urine was voided with difficulty. The tumour was now punctured with a lancet from the rectum, and about six pints of a limpid straw-coloured fluid were discharged, followed by an agonizing pain in the head, which was relieved by the recumbent posture. The operation was several times repeated; was succeeded by severe pain on pressure about the dorsal vertebræ, by symptomatic fever, &c.; the fluid discharged was sometimes of a deep brown colour, tinged with blood. The

patient eventually recovered. Mr. JACKSON supposes, that this must have been an ovarian dropsy.

66. *Case of the Pelvis becoming Enlarged.*—The Medical College at Coblentz, have given the following case, observed by Dr. HOFMUSTER. A Jewess, aged 34 years, of small stature, and deformed, having twice suffered from difficult labours, (on the last occasion it was necessary to open the child's head,) became pregnant in Dec. 1822. She aborted in the following month, and was confined to her bed until the month of March 1823. At this period, she had severe pain in the pelvis, and particularly about the sacrum. She had scarcely recovered her health, when she became again pregnant. All went on well; but entertaining fears respecting her delivery, she informed Dr. HOFMUSTER that the Cæsarian section would be required. He was called to her when in labour. The pains began six hours before, and continued to increase in frequency and force. Dr. HOFMUSTER found the head lodged in the pelvis; he waited an hour, and accomplished by slight efforts with the forceps, the delivery of a well formed living girl. The examination of the pelvis, proved that its dimensions were greatly changed, since her preceding confinement two years ago. The superior right sacro-pubic diameter, which formerly measured two inches and a half, now measured more than three inches and a quarter, and the sacro-vertebral junction no longer formed a projecting angle.—*Bordeaux Med. Jour. May* 1826.

VII. CHEMISTRY AND PHARMACY.

67. *L'Artigue's process for preparing the Watery Extract of Opium.*—Take good crude opium, break it down in a marble mortar, so as to form a paste, to be moistened with rain or river water, for the purpose of dissolving all the soluble parts; then pour the mass on a piece of linen previously stretched and moistened, so as to obtain the clear liquor. The magma, after being pressed by the hand in separate portions, is to be put into the mortar and again moistened, but with a smaller quantity of water, and the clear liquor strained off as before. The process to be repeated until the water passes off nearly colourless. Eight parts of water, are to be employed for one of opium.

The filtered liquor, after being allowed to settle, is to be carefully decanted into a basin, and subjected to a boiling heat, the ebullition to be continued for a whole day, adding fresh water every half hour, so as to prevent the concentration of the liquor. At night, pour it into an earthen jar; the next morning, decant the liquor into the basin, and continue the ebullition, renewing the water as it evaporates. In general, two days suffice in operating on four pounds of opium, to dissipate the poisonous smell, and separate, in a great measure, the resinous and feculent matter. Then having again decanted the liquor into the basin, the boiling is to be continued

for two hours, when the evaporation is to be conducted at a temperature below boiling, continually stirring with a spatula, until it acquires the consistence of a thick sirup, then set it by to cool; dissolve this in cold distilled water; the quantity to be determined, by a portion of the solution not being rendered turbid by the addition of more water. A copious precipitation will take place; it must therefore, be allowed to stand for 24 hours at least; then decant and evaporate, stirring all the time, until it acquires the consistence of soft extract, and allow it to cool. The solution and evaporation to be repeated, until the extract forms a clear solution with distilled water.—*Bordeaux Med. Jour. April* 1826.

68. *Berzelius' Method of detecting Arsenic in the Bodies of Persons poisoned by it.*—Berzelius considers *the reduction of the arsenic to the metallic state, as the only incontestible proof of the presence of the poison;* confirming, therefore, the position assumed by the best medico-legal writers on this point. The same ground was assumed and ably illustrated, by Professor Macnevin of New York, in relation to a medico-legal investigation, which took place some years ago.

The arsenic may be found in the body, either in substance as arsenious acid, or in solution. When in substance, proceed thus: take a piece of barometer tube, about three inches long, and having drawn it out at one end into a much narrower tube, close it. Put a small quantity of the suspected substance into the tube, and let it fall into its narrow part. Next let fall upon it, a little charcoal, which has been previously freed from all moisture, by being heated to redness by means of the blowpipe. The charcoal is next heated to bright redness by means of a spirit lamp, and when in this state, the flame is transferred to the part of the tube containing the arsenic. This is instantly volatilized, and, coming in contact with the red-hot charcoal, is reduced, and condenses in the cool part of the tube. By the application of the flame, the reduced metal may be concentrated in the small part of the tube, where it presents the appearance of a small shining metallic ring, resembling polished steel. To put its nature beyond a doubt, break off the small tube, just beyond the metallic matter, by means of a file, and having heated it, apply the nose a small distance above it. If the matter be arsenic, a garlic odour will be perceived.

In cases where the solid arsenious acid cannot be found, collect the contents of the stomach and intestines, and digest them in a solution of hydrate of potassa; then add muriatic acid in excess. Filter the whole, and if the solution be too dilute, concentrate by evaporation. A current of sulphuretted hydrogen is now to be passed through it, which precipitates the metal in the form of a yellow sulphuret. If the quantity of arsenic be very small, the liquid will become yellow, without any precipitate; in which case, it must be evaporated, and in proportion as the muriatic acid becomes more concentrated, the sulphuret of arsenic will be deposited. The liquid is next to be filtered, and if the precipitate be too small to be detached from the paper, add a few drops of aqueous ammonia, which will dissolve

it. Put the liquid which passes the filter, into a watch glass, and evaporate to dryness. The ammonia will be volatilized, and the sulphuret of arsenic obtained in a separate state. If it shall still be difficult to collect the sulphuret, mix with it in the watch glass, a little pulverized nitrate of potassa, by which it will be detached from the glass. At the bottom of a small piece of glass tube, closed at one end, melt a little nitrate of potassa, and put into it, in its melted state, a little of the mixture containing the arsenic. The metal becomes oxidized and converted into arsenic acid, without loss. The melted matter is now dissolved in water, and the solution precipitated by lime added in excess, and then boiled. The arseniate of lime formed, is next to be collected. When dried, mix it with charcoal, and bring it to a red heat by means of the blowpipe. Introduce a small quantity of this mixture into the small end of the tube, mentioned at the beginning of this notice, and gradually heat it to expel all humidity; and, when it is very dry, heat it by means of the blowpipe flame. The arsenic will be revived, and sublimed at a distance from the heated part.

"M. Berzelius maintains, that the *sixth part of a grain of sulphuret of arsenic, is sufficient to make three different trials;* but he adds, that when we have discovered only very small traces of arsenic, we must take care not to introduce any by means of re-agents, among which, both the sulphuric and the hydrochloric (muriatic) acid may contain it. The first almost always contains some arsenic, when it is manufactured from volcanic sulphur, and the second, in consequence of sulphuric acid being used in the preparation of hydrochloric acid, yields the arsenic which it contains, in separating it from soda. We must, therefore, be certain of the purity of these re-agents." —*Edin. Phil. Journ.* as quoted in *Ann. Phil. March*, 1826.

69. *Action of certain Metallic Substances on the Animal Economy.*—Professor Gmelin, of Tubingen, has made a number of experiments on dogs and rabbits, to determine the action of particular metals on the animal system. The following are his results.

1. *Baryta.* The soluble salts of this earth, were found to act chiefly on the brain, spine, and voluntary muscles; the results agreeing with those heretofore obtained by Orfila and Brodie.

2. *Strontia.* This earth, though possessing so many analogies to baryta, hardly exhibits any poisonous quality.

3. *Chromium.* The saline combinations of this metal are active poisons, whether taken into the stomach or applied to a wound. The bichromate of potassa causes ulcerations on the hands and arms of the workmen, who employ it in dying.

4. *Molybdenum.* This metal was tried in the form of molybdate of ammonia. It produces, when introduced into the stomach, depressed action of the heart, occasionally strong convulsions before death, and, in dogs, at times, diarrhœa. It is less active than the last metal.

5. *Tungsten.* This metal has very little energy as a poison, and with reference to its physiological effects, may be classed with iron.

6. *Tellurium.* Ten grains of the oxide killed a rabbit in ten days, without giving rise to any particular symptom.

7. *Titanium.* Innocuous.

8. *Osmium.* This metal is an active poison. It appears to act as a corrosive and irritant, and produces no particular symptom, except a palsy of the hind legs.

9. *Platinum.* The muriate of platinum kills dogs, in doses of twelve grains, causing violent inflammation of the stomach and intestines. It has the same effect when injected into the veins; but what is very remarkable, no effects are produced on the general system or remote organs, when the same salt is applied to the cellular tissue, by means of a wound.

10. *Iridium.* The salts of this metal produce vomiting and diarrhœa in dogs, and in rabbits destroy life, apparently in consequence of inflammation.

11. *Rhodium.* Not very poisonous.

12. *Palladium.* This metal in the form of muriate is an active poison.

13. *Nickel.* This metal was tried in the form of sulphate, and does not appear to be an active poison. Its salts, like those of platinum, have no effect when injected into the cellular tissue.

14. *Cobalt.* This metal is allied to nickel in its action on the animal system.

15. *Uranium.* This metal was tried in the form of nitrate, and proved to be a feeble poison.

16. *Cerium.* The salt of this metal tried, was the protomuriate. It does not appear to possess much activity.

17. *Iron.* The experiments of GMELIN confirm the conclusions heretofore arrived at by chemico-physiologists, that the salts of this metal are the least poisonous of all the metallic preparations.

18. *Manganese.* The effects of this metal were found to be somewhat singular. The sulphate is not an energetic poison in the stomach, and still less so when applied to a wound; but it is poisonous when injected, in moderate doses, into the veins.—*Edin. Med. and Surg. Journ. July*, 1826.

QUARTERLY LIST

OF

AMERICAN MEDICAL PUBLICATIONS.

A Discourse on the Western Autumnal Disease. Read before the Tenth District Medical Society of Ohio, at Chillicothe, May 30, 1826. By John W. Vethake, M. D.—Chillicothe, printed by John Bailhache & Co. 1826, pp. 39.

Dr. Vethake occupies a considerable part of his Discourse, with remarks on the pathological state of the blood-vessels in fever, from which, we have only space enough here, to quote the following passage, which we commend, as well as his whole pamphlet, to the perusal of our brethren. "I have used the terms increase and decrease of arterial resistance; and, again, I have stated that an equilibrium of power and resistance must be supported during living being. Lest some confusion may arise from this apparent inconsistency, I will now again observe that there are several sources of this resistance, any one of which being removed or diminished in any part of the system, must be followed by increased fulness of that part, and this fulness compensates for the loss in the supporter of resistance, thus removed or diminished. An equilibrium is obviously sustained in all cases. If, by any capable cause, the vessels themselves are debilitated, they distend until they can distend no farther, or until the substance in which they are imbedded, resists farther fulness. Again, remove the compressing power of the atmosphere from a part of the body by means of the air pump, the vessels of that part distend. So it is in every possible case; and I therefore base every doctrine of inflammation and fever, on the literal signification of the term a diminution of *vascular resistance*." p. 19.

By the application of Vacca's theory of inflammation to the pathology of fever, we think the profession will one day be brought to think alike on that subject, a subject which is now involved in complete darkness and confusion, by the discrepant opinions of the teachers of the age.

Observations on the Medical Character, addressed to the Graduates of the College of Physicians and Surgeons of New York, at the commencement, held on the fourth of April, 1826. By David Hosack, M. D., Vice President of the College, and Professor of the Theory and Practice of Physic, and Clinical Medicine.—New York, 1826, pp. 38.

This discourse, which enumerates many incentives to the performance of our duty to the profession at large, to each other as individuals, and to the sick, is well calculated to diffuse a proper tone of feeling among our medical brethren. Our attention has been attracted to the following passage, among others, equally marked by sound sense and good feeling.

"In some instances, the physician, with great injustice, and in violation of the obligations he enters into when admitted to the profession, permits his private misunderstandings with his fellow practitioners, to interfere with his duties to the sick, refusing to hold intercourse with a physician with whom he may be at variance, but whose abilities and experience he, as well as the world, cannot but acknowledge. No circumstance can justify this departure from duty. The physician is a public character; he holds an official station in the community; and, therefore, while professing himself a practitioner, cannot be absolved by any private considerations, from the discharge of the functions appertaining to that profession." p. 29. A good rule, and most particularly valuable in its application to those of our brethren, who live in thinly settled districts, where a consultation can be had with only one or two physicians.

A Letter to the Hon. Isaac Parker, Chief Justice of the Supreme Court of the State of Massachusetts, containing Remarks on the Dislocation of the Hip Joint; occasioned by the Publication of a Trial which took place at Machias, in the State of Maine, June, 1824. By John C. Warren, M. D., Professor of Anatomy and Surgery in Harvard University, and Acting Surgeon in the Massachusetts General Hospital. With an Appendix of Documents from the Trial, necessary to illustrate the History of the Case."—Cambridge, 1826, 8vo. pp. 142.

We formerly proposed to present an analysis of the "Report of a Trial," &c. &c. to which this pamphlet is an answer. Our subscribers will see, however, that we have already considerably exceeded the proper limits of this number.

The New York Medical and Physical Journal, for April, May, and June.

The Medical Recorder, for July. No. 35.

The New England Journal of Medicine and Surgery. July. Conducted by Walter Channing, Jun. M. D., and John Ware, M. D. *In Exchange.*

The Philadelphia Medical and Physical Journal. No. 24. August.

The American Medical Review and Journal. August.

The Carolina Journal of Medicine and Agriculture.

The Quebec Medical Journal. Vol. I. No. 3. July, 1826. *In Exchange.*

We take great pleasure in announcing this contemporary, which contains some interesting articles, of which, we regret that we could find only room enough for one considerable extract. A Medical Journal, well conducted, will, doubtless, find a liberal support in Canada, whose population must soon feel the beneficial effects of this literary enterprise, in the increase and dissemination of the Medical Sciences.

An Inaugural Dissertation on the Properties of the Apocynum Cannabinum, (Indian Hemp,) submitted to the Faculty of Jefferson Medical College. By M. L. Knapp, M. D. Licentiate of the Chenango Medical Society, New York. Philadelphia, 1826. Cited in our last, (vide p. 77.) but omitted in the list. An able Thesis.

Practical Elucidation of the Nature of Hernia, together with some remarks on the unfit Instruments hitherto used for its confinement. With an Explanation of the Experience, Utility, and Effectual Cures, of the Instrument now recommended. By A. G. Hull, M. D., Inventor and Patentee; Permanent Member of the State Medical Society, and late President of the Oneida Medical Society. 3d Edition. New York, 1826.

One of the Editors of this Journal has seen, and applied the Truss here alluded to, and is convinced of its possessing advantages of a very material kind. Having said thus much, it is not material to dilate upon the character of the pamphlet. Dr. Hull alludes, in more than one place, to the disapprobation of his professional brethren. "We have thus far, (in introducing a valuable instrument,) had the mortification to encounter the sneers of our brethren, and the independence to *disregard* them." p. 10. We shall not inquire into the statements "that the patentee's form of pad has been lately adopted by the first surgeons in London, and that trusses of his invention, are now manufactured and sold in London, as the *American Truss:*" p. 8.—or "that the Truss invented by the author, is approved of by the most eminent physicians and surgeons in Europe and the United States, particularly by the celebrated *Dr.* Astley Cooper, of London." p. 26.

Our author's title of "late President of the Oneida Medical Society," is a striking trait of the progressiveness of all things in America. This Medical Society, is actually situated in, what was very lately, the favoured seat of Red Jacket and Scanando.

The instrument is recommended in the strongest terms by the Oneida Society, by a committee of the New York Medical Society, by Dr. Nathan Smith of Yale, by Dr. Thacher, and by our cotemporaries of the Medical Review and New York Medical and Physical Journal, and also, in the depositions on a trial, made by Drs. Mott, Mitchell, Akerly, Pascalis, Beck, and several others.

Rules for the Government of the Pennsylvania Hospital. Philadelphia, 1826.

Caldwell on Fever, on alleged Medical Irreligion, on Yellow Fever, and on the Analogies of Disease. Noticed in our last.

These interesting essays, amounting to two small volumes and to 321 pages, were placed in the hands of a medical gentleman for a review; but we have not been yet able to present one. This has arisen in part, from want of time and of space; but in no small degree, also, from the copiousness and importance of the subjects of which they treat. Either of them might well serve as the text for a small review. We expect yet to present one, at least; and, in the mean while, will offer an account of their contents, and some remarks on one of them.

The "Analysis of Fever," is a statement, in 97 pages, of the author's theory of that disease; and is marked with the author's well known ingenuity, and perhaps with somewhat more of closeness in his style, than he has at all times manifested.

The "Defence of the Medical Profession against the charge of Irreligion and Infidelity," is a highly eloquent and poetical production. It ascribes great importance to what is called NATURAL RELIGION, and repels, with great animation, the charge, frequently alleged against physicians, of being disinclined to piety; maintaining with warmth, that a physician is more truly in his sphere and paying honour to the Creator, while attending at the bedside, than he would be in a place of worship; where he seems to think it unreasonable to expect the frequent presence of medical men.

We are prepared to say, at once, that we will not go into matters of polemic or theological discussion; and that we will never consent that our defence of the conduct of the profession, in this respect, should be based on the substitution of natural for revealed religion. We consider it, however, a thing of by no means unfrequent occurrence, to do gross injustice to physicians, on this point; and have often felt indignant, when men whose avocations are of a far less imperative nature, and to whom an hour in a place of worship, furnished only an agreeable exchange with their daily cares, and a means of getting rid of a portion of the Sabbath, have, in the plenitude of self-righteousness, thrown blame on the medical profession for unavoidable neglects.

With regard to the allegation, that the study of medicine leads to infidelity, we only say, that we apprehend that sound religion can never stand in danger, from the investigation of any kind of *truth*. We shall not go into Dr. Caldwell's eulogy upon the beauty and excellence of Natural Religion, for very obvious reasons.

The Dissertation on the alleged contagion of Yellow Fever, is a reply to the prize questions proposed by the Duke of Holstein Oldenburgh. We are not prepared with a full account of it, but we have for some time considered it a desideratum; as a great amount of knowledge on this point ex-

ists among us, unconcentrated and deprived of a part of its value. Judging from the points of which it treats, we should presume, that if Dr. Caldwell's memoir were to be published in Europe, with a detailed account of the data upon which it rests, much trouble might, at least, be saved to those who are now going over the same ground in Europe, which has exercised so many American understandings during the period from 1793 to 1805, and occasionally since.

The "Thoughts on the Analogies of Disease" are purely argumentative; not professing to enlarge the human treasure of fact.

AMERICAN EDITIONS OF FOREIGN MEDICAL WORKS.

Towar & Hogan, Philadelphia, have in press, the Elements of the Theory and Practice of Physic, by George Gregory, M. D., with Notes and Additions *adapted to the Practice of the United States*, by Nathaniel Potter, M. D., Professor of the Practice of Physic in the University of Maryland, and S. Colhoun, M. D., Member of the American Philosophical Society. In 2 vols. 8vo.

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